

INCIDENT

Aircraft Type and Registration:	BN2A Mk.III-2 Trislander, G-RLON	
No & Type of Engines:	3 Lycoming O-540-E4C5 piston engines	
Year of Manufacture:	1975	
Date & Time (UTC):	24 March 2009 at 0758 hrs	
Location:	Jersey Airport	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 1	Passengers - 15
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Forward baggage bay door missing	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	56 years	
Commander's Flying Experience:	5,133 hours (of which 1,596 were on type) Last 90 days - 123 hours Last 28 days - 41 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Shortly after taking off, the nose baggage bay door OPEN warning light illuminated. The commander initiated a turnback but, while over the sea, the door separated. The aircraft landed safely. In the absence of any physical evidence from the door and its latch, it was not possible to conclude the exact cause of the separation. However from an inspection of the operator's other aircraft some wear was identified in the door latching mechanism. The manufacturer has subsequently issued a Service Bulletin which specifies an inspection of the door latching mechanism.

History of the flight

The aircraft was departing from Runway 27 at Jersey when, as the aircraft rotated, the commander noticed

the nose baggage bay door OPEN warning light was illuminated. He decided to continue the take-off but, at around 200 ft, the commander saw the door open. He requested an immediate return to the airfield, and flew a 'teardrop' pattern to land on Runway 04. During the turnback, whilst over the sea, the baggage bay door separated from the aircraft. The commander continued the approach and the aircraft landed safely.

Description of baggage bay door and examination

The upward-opening nose baggage bay door is located on the left side of the nose of the aircraft and is hinged at the top (see figure below). It is secured at the lower edge by shoot bolts which engage at the front and rear of the door. When the handle is rotated from the outside, a

square drive turns an eccentric lever plate which engages the shoot bolts into their locks (marked D in the figure below). Rotating the lever also engages a bottom lock (marked C).

A licensed engineer was sent to examine the aircraft and noted that the door hinges were still attached, but the complete door, with the handle mechanism and the shoot bolts had separated. The door had first struck the left windscreen, leaving scratch marks, and then contacted the left propeller spinner causing a slight dent, before finally striking the rear face of one of the left propeller blades and its de-ice boot.

Safety action

Initial enquiries made by the operator regarding the dispatch of the aircraft, concluded that the door was unlikely to have been incorrectly latched prior to departure. Without any physical evidence from the door and its latch, which had fallen into the sea, the operator carried out an inspection of its remaining six aircraft. This inspection called for a detailed visual examination and revealed evidence of movement between the lever assembly and the eccentric lock. The square drive on the lever showed evidence of ‘rounding off’. Subsequent movement between the square drive and the lever could

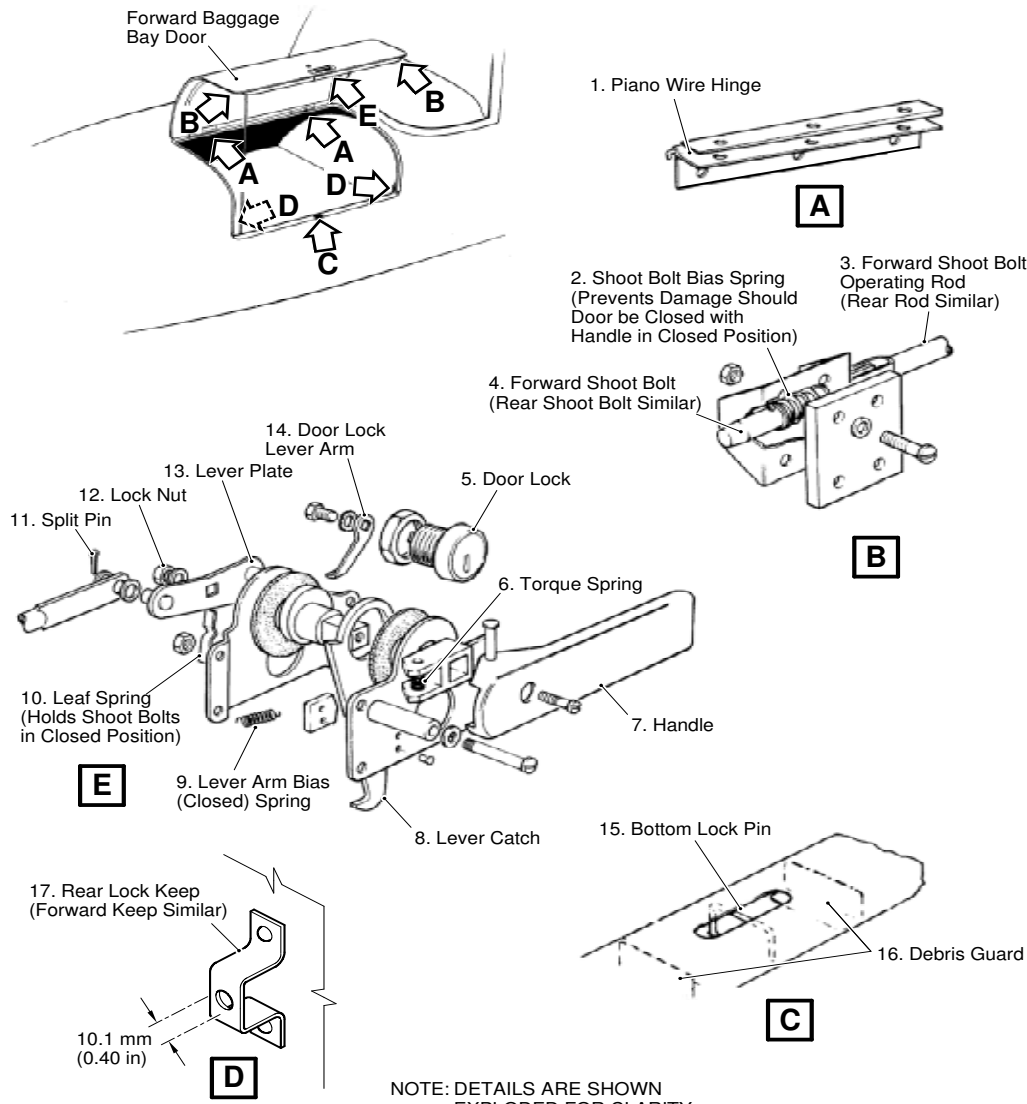


Diagram extracted from SB BN2A Mk111-319

result on the lock nut becoming loose and the handle detaching.

The operator decided to repeat the inspection every 100 hours.

The manufacturer has since issued a Service Bulletin (SB) BN2A Mk111-3 SB319, dated 30 June 2009. The

SB 'highly recommends' an inspection of the forward baggage bay door to be performed at the earliest opportunity, but not later than 50 hours. An amendment to the maintenance manual is proposed which will include a periodic inspection.