

ACCIDENT

Aircraft Type and Registration:	DHC-8-402 Dash 8, G-JEDN	
No & Type of Engines:	2 Pratt & Whitney Canada PW150A turboprop engines	
Year of Manufacture:	2003	
Date & Time (UTC):	22 April 2010 at 0600 hrs	
Location:	Southampton Airport, Hampshire	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 4	Passengers - 40
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Right wing leading edge damaged	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	48 years	
Commander's Flying Experience:	6,086 hours Last 90 days - 167 hours Last 28 days - 39 hours	
Information Source:	AAIB Field Investigation	

Synopsis

During the takeoff roll the No 2 engine inboard forward access door detached from the aircraft, colliding with and damaging the leading edge of the right wing. The lower latches of the door were found in the fully open position, indicating that the door had not been secured following maintenance.

History of the flight

The aircraft and crew were due to operate four sectors beginning at Southampton, where the aircraft had been parked overnight. The flight crew arrived in good time and carried out their normal pre-flight activities. The aircraft was parked facing north, nose-in towards the airport terminal. The crew walked to the aircraft about forty minutes before the scheduled departure

time of 0545 hrs. The commander removed the engine blanks and stowed them in the forward hold before beginning a walk-around inspection of the aircraft, moving clockwise round the aircraft from the forward passenger door. The sun had risen at 0457 hrs and although the sun was low in the sky, the commander stated that conditions were quite light and that he was able to carry out his inspection without a torch. He reported that he checked, amongst other things, that all engine panels were secure, and added that he took care to inspect each engine from the front as well as from both sides.

After completing the walk-around, the commander boarded the aircraft, and, having noted a very small

amount of melting frost on the aircraft, ordered de-icing. The passengers embarked and the aircraft was de-iced. Although the de-icing crew moved round the aircraft as they worked, and a member of ground crew also walked round the aircraft before pushback, no abnormalities were identified. The aircraft was then pushed back and departed.

A pilot sitting in a parked aircraft saw a panel thrown upwards from G-JEDN during its takeoff roll. He reported this to ATC, who passed the information to the flight crew.

Other than the report from ATC, the flight crew of G-JEDN were not aware of anything unusual; the aircraft appeared to behave normally. ATC then advised the flight crew that a panel and some other debris had been found on the airfield. The commander decided to return to Southampton, and the aircraft landed without further incident.

Engineering examination

The No 2 engine inboard forward access door was found by airport staff in the grass area approximately halfway along and to the east of the runway. It was found with the two centre latches closed and locked but with the two lower latches fully open (Figure 1).

The lower latches had grass and dirt embedded within the lever mechanism indicating that they were in the open position when the door impacted the ground. Examination of the latch pin receivers in the nacelle structure showed no evidence of the pins having been forced out of their locked positions. All four quick-release positive-lock pin latches were found to be serviceable and showed no evidence of the latch pins having been engaged immediately prior to the engine bay door becoming detached from the aircraft.

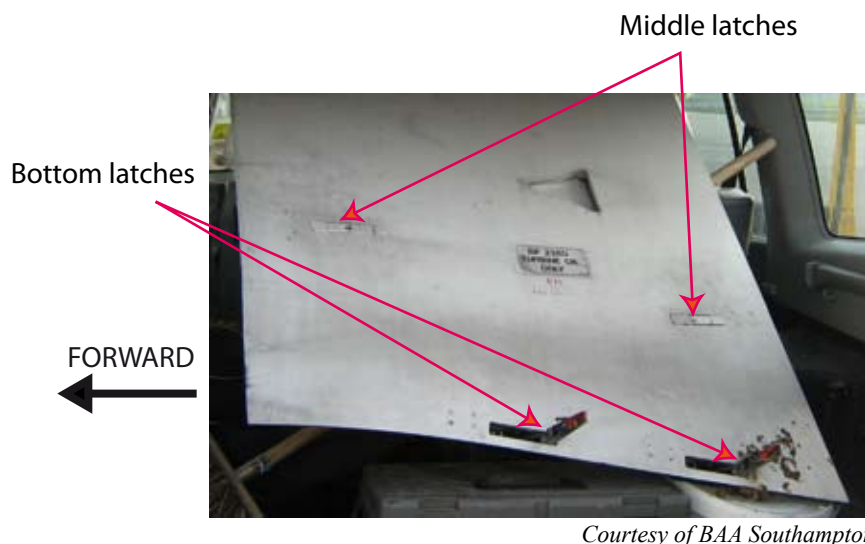


Figure 1

No 2 engine inboard forward access door following recovery

Engine bay access doors

The main engine bay has two large forward access doors, one inboard and one outboard. These access doors are made from a carbon/epoxy composite material with integral foam filled stiffening ribs. Each door is hinged at the top and is held in the closed position by four quick release positive-lock pin latches. Each latch, when closed, engages a pin into a receiver mounted within the engine nacelle structure (Figure 2).

The inside of each latch is coloured Day-Glow orange.

The outboard door on the No 1 engine and the inboard door on the No 2 engine allow access to service the engine oil system.

Other information

The aircraft was based at Southampton where it had been parked overnight. A Daily Check and an unscheduled maintenance task were carried out during the night. One of the first tasks specified on the Daily Check was to check the engine oil quantities. This task required the No 1 engine forward outboard and the No 2 engine forward inboard access doors to be opened. The evidence suggested that the No 2 forward inboard access door had not been fully latched following the maintenance work.

Safety action taken by the operator

Following this event the operator launched a safety campaign to highlight to aircrew, engineering and ground staff the importance of securing and checking of engine access doors on all its aircraft types.

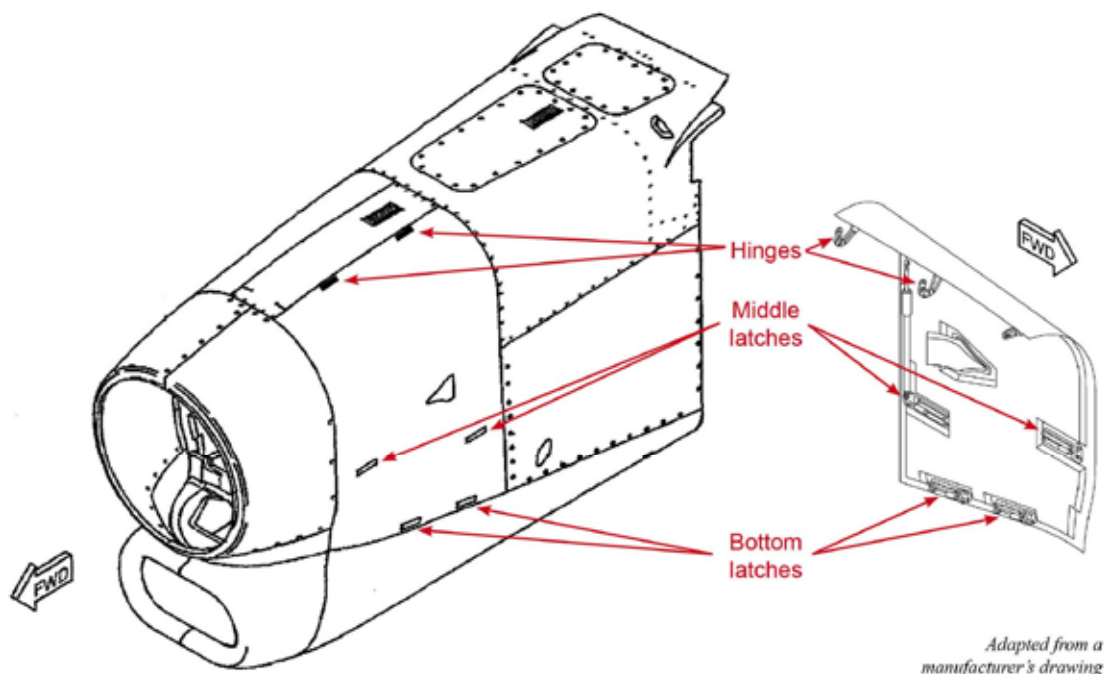


Figure 2

Forward engine bay access door