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Propeller strike involving Fairchild SA227-DC, VH-WBQ

Granny Smith aerodrome, Western Australia, 22 August 2012

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Propeller strike involving Fairchild SA227-DC, VH-WBQ

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What happened

On 22 August 2012, at about 0604 Western Standard Time¹, a Skippers Aviation Fairchild SA227-DC aircraft, registered VH-WBQ, departed Perth on a charter passenger service to Granny Smith aerodrome, Western Australia. The first officer (FO) was designated as the pilot flying.

The aircraft arrived at the aerodrome and joined the circuit. When on downwind, the landing gear was extended, with the crew confirming that the three green down-locked lights ('three greens') were illuminated. When on approach, at about 500 ft, the crew again confirmed the landing gear was extended, with 'three greens' observed. Shortly after, the FO once more confirmed they had 'three greens'.

During the landing flare, when about 1-2 ft above the runway, the left wing suddenly dropped. The FO immediately applied right aileron in an attempt to counteract the wing drop and the aircraft touched down. After landing, the crew observed the landing gear door warning light illuminate.

The captain assumed control of the aircraft and taxied to the parking area.

After shutdown, the crew inspected the aircraft and determined that the left propeller had contacted the ground. The aircraft sustained damage to the left propeller blades and spinner, and the left landing gear doors (Figure 1).

The operator examined the aircraft and believed that there was an uncommanded retraction of the left landing gear on, or just after touchdown, which resulted in the left wing dropping. Right aileron was applied, which raised the left wing, and with the forward momentum of the aircraft, the left landing gear extended. The crew could not recall hearing the landing gear warning horn activate during the landing.

Landing gear examination

The left landing gear was examined and found to be operating correctly. A wiring inspection was also conducted, with an open circuit found on one diode²; however, the operator was unable to determine if this had any effect on the operation of the landing gear.

While the examination was unable to identify any faults with the left landing gear, as a precaution, the operator sent some of the landing gear components to maintenance organisations for additional examination; with no faults found. Extensive ground testing of the landing gear has also been conducted, in accordance with the aircraft's maintenance manual, with no issues identified. To date, the aircraft has not been returned to service.

Recorded information

The flight data recorder (FDR) and cockpit voice recorder (CVR) were retrieved from the aircraft and downloaded. An analysis of the data by the Australian Transport Safety Bureau (ATSB) identified that the landing gear was selected down, 3 minutes and 40 seconds prior to touchdown,

Propeller damage



Source: Aircraft operator

¹ Western Standard Time (WST) was Coordinated Universal Time (UTC) + 8 hours.

² A valve or solid-state device that allows electric current to flow in only one direction through it.

and that 2.5 seconds after touchdown, a warning horn momentarily sounded. The data also indicated that, on a number of occasions, the crew confirmed that the landing gear” three green” down-locked lights were illuminated.

Figure 1: Propeller and landing gear door damage



Source: Aircraft operator

ATSB comment

The reason for the uncommanded left landing gear retraction could not be determined.

Aircraft details

Manufacturer and model:	Fairchild Industries Inc. SA227-DC	
Operator:	Skippers Aviation	
Registration:	VH-WBQ	
Type of operation:	Charter - passenger	
Location:	Granny Smith aerodrome, Western Australia	
Occurrence type:	Propeller strike	
Persons on board:	Crew – 2	Passengers – 15
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Minor	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The Bureau is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.