Australian Government
Australian Transport Safety Bureau

Wheels-up landing involving a Beech 95-B55, VH-TLP

St Helens aerodrome, Tasmania, 20 October 2013

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Addendum

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Wheels-up landing involving a Beech 95-B55, VH-TLP

What happened

On 20 October 2013, at about 1140 Eastern Daylight-savings Time (EDT),[1] the pilot of a Beech 95-B55 aircraft, registered VH-TLP, was preparing for a local private flight from St Helens aerodrome, Tasmania.

The pilot reported that he closed the aircraft door and noted a distinctive click indicating that it was secure. He then completed the taxi and pre-take-off checks and reported that everything was operating normally.

The pilot commenced the take-off on runway 26 and, as the aircraft became airborne, at about 50-60 ft above ground level (AGL), the pilot reported hearing a bang and the door opened. Documents blew out of the door and around the cockpit.

The pilot continued the climb to 1,000 ft AGL in preparation to return for landing. The pilot could not recall retracting the landing gear after take-off.

When on the downwind leg of the circuit, the pilot attempted to close the door, but was unable to reach it. On turning onto base leg, the pilot selected 10 degrees of flap and continued the approach. On final, he selected full flap and reduced the throttle setting to idle for landing.

As the aircraft touched down, the pilot realised that the landing gear was retracted. The aircraft slid along the runway and came to rest about 600 m from the runway end. The aircraft sustained substantial damage (Figure 1).

The pilot reported hearing a horn activate during the landing, but was unable to distinguish whether it was the stall warning[2] or the landing gear warning horn.[3]

Figure 1: Aircraft damage

Source: Tasmania Police

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1 Eastern Daylight-savings Time (EDT) was Coordinated Universal Time (UTC) + 11 hours.

2 Stall is the term used when a wing is no longer producing enough lift to support an aircraft's weight.

3 The operating manual for the aircraft stated that 'if either or both throttles are retarded below an engine setting sufficient to sustain two-engine flight with the landing gear retracted, a warning horn will sound intermittently'.

Pilot comments

The pilot provided the following comments:

- He normally lowered the landing gear on downwind, but omitted to do it on this occasion.
- He had never heard the landing gear warning horn activate before and was not aware of what it sounded like.
- He normally used memorised checks, but in future would use a written checklist.
- An engineering inspection after the accident found that the door appeared to be twisted and not sitting flush in the frame, but was lockable.
- About 9 years prior to the accident, the aircraft door had opened on take-off, but had since been fixed by engineers.

Safety message

An American Bonanza Society magazine article (ABS July 2006) cites other pilots' experiences of doors opening in flight involving the B55 aircraft. The article is available from www.bonanza.org and reinforces the importance of concentrating on flying the aircraft if a door opens unexpectedly.

Generally, distraction is defined as a process, condition or activity that takes a pilot's attention away from the task of flying. Research conducted by the Australian Transport Safety Bureau has identified 325 occurrences between 1997 and 2004, which involved distractions. Of these, 54 occurred during the landing phase of flight. The source of distraction for the majority (33) of the 234 occurrences was related to equipment problems. The report also stated that the most serious source of pilot distraction occurred as a result of an unexpected equipment malfunction.

The Flight Safety Foundation suggests that, after a distraction source has been recognised and identified, the next priority is to re-establish situation awareness by conducting the following:

- *Identify*: What was I doing?
- *Ask*: Where was I distracted?
- *Decide/act*: What decision or action shall I take to get back on track?

The following provide additional information on pilot distraction:

- Dangerous Distraction: An examination of accidents and incidents involving pilot distraction in Australia between 1997 and 2004: www.atsb.gov.au/publications/2005/distraction_report.aspx
- Flight Safety Foundation Approach-and-landing Briefing Note 2.4 – Interruptions/Distractions: http://flightsafety.org/files/alar_bn2-4-distractions.pdf
- The United states Federal Aviation Administration (FAA) On Landings Part III pamphlet:www.faasafety.gov/files/gslac/library/documents/2011/Aug/56411/FAA%20P-8740-50%20OnLandingsPart%20III%20%5Bhi-res%5D%20branded.pdf
- YouTube video of an unintentional wheels up landing: www.flight.org/blog/2012/04/22/gear-up-landings-and-pilot-error/

General details

Occurrence details

Date and time:	20 October 2013 – 1140 EDT	
Occurrence category:	Accident	
Primary occurrence type:	Wheels up landing	
Location:	St. Helens aerodrome, Tasmania	
	Latitude: 41° 20.20' S	Longitude: 148° 16.92' E

Aircraft details

Manufacturer and model:	Beech Aircraft Corporation 95-B55	
Registration:	VH-TLP	
Serial number:	TC-1537	
Type of operation:	Private	
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Substantial	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB 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.