



Australian Government

Australian Transport Safety Bureau

Runway excursion involving a Beech A36, VH-EUB

Lilydale (ALA), Victoria, 19 February 2014

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Addendum

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Runway excursion involving a Beech A36, VH-EUB

What happened

On 19 February 2014, at about 1030 Eastern Daylight-savings Time (EDT), a Beech A36 (Bonanza) aircraft, registered VH-EUB, departed Lilydale aeroplane landing area (ALA), Victoria, for a training flight, with an instructor and pilot-under-instruction on board. The purpose of the flight was to complete a constant speed unit (CSU) and a retractable undercarriage (landing gear) endorsement and familiarise the pilot with the aircraft type.

VH-EUB



Source: Operator

At the time of departure, the weather was fine, with the wind variable to about 10 kt. There were some storm cells and showers and lightning in the area. After completing training exercises in the local area, the aircraft returned to Lilydale. As they returned, a storm cell with heavy rain passed over the airport, so the crew elected to conduct further training to the south-west of the aerodrome to avoid the weather. After the shower had passed, the instructor obtained the weather from the automatic weather information service (AWIS) located at Coldstream, about 3 NM from Lilydale. The pilot then broadcast an inbound call and returned to Lilydale, joining downwind for a landing on runway 18 Left (18 L).

On downwind, the pilot conducted pre-landing checks and confirmed that the brakes had pressure. He observed the windsock which favoured a landing on runway 18. The instructor observed the windsock when on mid-final, and at that stage the wind still favoured runway 18.

There was a row of trees on the approach and the pilot reported maintaining height to pass about 10 ft above the trees. The instructor reported that the approach was a bit unstable, and the aircraft arrived over the runway threshold about 50 ft above ground level (AGL) at about 85 kt indicated airspeed (IAS). This was slightly higher and faster than an optimal approach, which was 30 ft AGL and 80 kt IAS. The pilot then asked whether he should conduct a go-around; however, the instructor advised that there was still sufficient runway remaining for a normal landing.

The aircraft touched down about 250-300 m along the runway and the pilot applied the brakes, but the aircraft did not decelerate. The instructor assumed that the pilot was applying the brakes too heavily, causing the aircraft to skid on the wet runway, so he took over the control of the aircraft and commenced applying the brakes, then releasing and reapplying them. The brake pedals had pressure, however the brakes remained ineffective at gaining traction. At this stage the instructor assessed that it was too late to commence a go-around and that the aircraft was aquaplaning on the wet runway.

With less than 100 m of runway remaining, the pilot and instructor both applied right rudder in an attempt to steer the aircraft away from an embankment located about 20 m beyond the end of the runway. The aircraft rotated 90° to the right and continued to slide in the direction of the runway. The aircraft came to rest on top of the embankment and the left main landing gear collapsed (Figure 1).

After exiting the aircraft, the instructor observed that the wind had veered and was then about 10 kt from 340° and assessed that a tailwind may have contributed to the incident.

Figure 1: VH-EUB



Source: Operator

Pilot comments

The pilot-under-instruction provided the following comments:

- After completing landings at Lilydale in a different Bonanza two days after the incident, he could appreciate why the instructor had advised him to continue with the approach, rather than to conduct a go-around. On that day, the aircraft stopped very quickly, using only about 200 m of runway after touchdown.
- The AWIS at Coldstream usually provided a reliable indication of the weather conditions at Lilydale, however the thunderstorms caused local wind changes that were not necessarily present at Coldstream at that time.
- The ground had been very dry prior to the flight and the downpour created a lot of surface water and a slick film.

Instructor comments

The instructor provided the following comments:

- The shower of rain had left a film of water on the runway. Although the aircraft had skidded for some distance along the runway, both aligned with and at right angles to it, no skid marks were visible on the grass.
- The landing distance required, calculated from the aircraft manual, at 20 °C, sea level, nil wind at 1,350 kg aircraft weight, was 480 m including a 15% safety factor. The runway length was 850 m.
- His decision to continue with the landing (rather than go-around), was based on previous experience in the aircraft type on a wet runway at Lilydale.
- Lilydale had two parallel runways, runway 18 L was shorter and wider than runway 18 Right, which was 1400 m in length. One runway was nominated as the runway in use each day, and the other marked with white crosses to indicate that the runway was closed. This was to allow the grass to recover.

Safety message

A go-around, the procedure for discontinuing an approach to land, is a standard manoeuvre performed when a pilot is not completely satisfied that the requirements for a safe landing have been met. The need to conduct a go-around may occur at any point in the approach and landing phase, but the most critical go-around is one initiated close to the ground.

This incident highlights the importance of conducting a go-around as soon as landing conditions appear unfavourable.

The following link provides some useful information on go-arounds: *Aviation safety explained – Go-arounds* www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD:1001:pc=PC_91481.

General details

Occurrence details

Date and time:	19 February 2014 – 1130 EDT	
Occurrence category:	Accident	
Primary occurrence type:	Runway excursion	
Location:	Lilydale (ALA), Victoria	
	Latitude: 37° 41.52' S	Longitude: 145° 21.98' E

Aircraft details

Manufacturer and model:	Beech Aircraft Corporation A36	
Registration:	VH-EUB	
Serial number:	E-251	
Type of operation:	Flying training – dual	
Persons on board:	Crew – 2	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.