



Australian Government

Australian Transport Safety Bureau

Landing gear collapse involving Piper PA-30, VH-HPR

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Addendum

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Landing gear collapse involving Piper PA-30, VH-HPR

What happened

On 29 March 2013, at about 1000 Eastern Daylight-saving Time,¹ a Piper PA-30 aircraft, registered VH-HPR (HPR), departed Bankstown Airport for Griffith Airport on a private flight. On board were the pilot and two passengers.

HPR was cleared to take off on runway 11 on a Bankstown six standard instrument departure.² Following the take-off, the pilot selected the landing gear up. Passing through 400 ft, the tower advised that the landing gear was still down. The pilot responded that he would continue with the departure and hold at 2,000 ft to troubleshoot the problem.

At 2,000 ft, the pilot engaged the autopilot and confirmed that the gear was selected up, but the gear down and locked light remained illuminated. The pilot checked the circuit breakers and could not see any that had tripped. The pilot then cycled the gear a number of times, however, the gear did not retract and the gear down and locked light remained illuminated.

The pilot then advised the tower that HPR would be returning and was cleared for a straight in approach to runway 11L at Bankstown. On short finals, the tower advised HPR to 'check wheels', the pilot confirmed that the green down and locked light was still illuminated and that the gear selector was in the down position. The pilot replied, 'undercarriage down green light'.

HPR touched down on the main wheels followed by the nose wheel, which collapsed when it contacted the ground, followed by the left main wheel and right main wheel. HPR then slid on its belly between 300 and 400 m, before coming to rest to the right of the runway centreline. The pilot and passengers exited the aircraft without injury and the aircraft sustained substantial damage.

Aircraft information

The aircraft had a total flight time of 10,434.4 hours at the time of the flight. The last maintenance inspection was performed on 19 June 2012 and the aircraft had flown 65.7 hours since that date.

Landing gear examination

Inspection of the aircraft by a licenced maintenance organisation was arranged by the insurer. The landing gear mechanism was visually inspected and the worm drive was almost to the full retraction position, indicating the gear was retracted electrically. A number of partial retractions were able to be performed within the limits permitted by the damage and the system operated normally.

The reason for this electrical retraction despite the gear selector being in the down position was not determined. However, it was considered that an electrical fault within the squat switch³ system may have been a factor in the failure of the gear to retract.

VH-HPR



Source: Insurer

¹ Eastern Daylight Saving Time was Coordinated Universal Time (UTC) + 11 hours.

² A SID is an air traffic control (ATC) coded departure procedure that has been established at certain airports to simplify clearance delivery procedures. It is optimised for ATC route of flight and will not always provide the lowest climb gradient. It strikes a balance between terrain and obstacle avoidance, noise abatement and airspace management considerations.

³ Switch triggered by compression of the main or nose landing-gear struts on touchdown.

General details

Manufacturer and model:	Piper PA-30	
Registration:	VH-HPR	
Type of operation:	Private	
Occurrence category:	Accident	
Primary occurrence type:	Landing gear collapse	
Location:	Bankstown Airport, New South Wales	
	Latitude: 33 55.5 S	Longitude: 150 59.3 E
Persons on board:	Crew – 1	Passengers – 2
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Substantial	

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.