Australian Government

Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT

Aviation Report – 200605559

Final

Loss of control – Canyonleigh, NSW 19 September 2006

N-73410

Boeing Stearman

Australian Government

Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT

Aviation Report
200605559

Final

Loss of control – Canyonleigh, NSW
19 September 2006
N-73410
Boeing Stearman

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office location: 15 Mort Street, Canberra City, Australian Capital Territory
Telephone: 1800 621 372; from overseas + 61 2 6274 6590
Accident and serious incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6274 6474; from overseas + 61 2 6274 6474
E-mail: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

© Commonwealth of Australia 2007.

This work is copyright. In the interests of enhancing the value of the information contained in this publication you may copy, download, display, print, reproduce and distribute this material in unaltered form (retaining this notice). However, copyright in the material obtained from non-Commonwealth agencies, private individuals or organisations, belongs to those agencies, individuals or organisations. Where you want to use their material you will need to contact them directly.

Subject to the provisions of the *Copyright Act 1968*, you must not make any other use of the material in this publication unless you have the permission of the Australian Transport Safety Bureau.

Please direct requests for further information or authorisation to:

Commonwealth Copyright Administration, Copyright Law Branch
Attorney-General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600
www.ag.gov.au/cca

ISBN and formal report title: see 'Document retrieval information' on page iii.

DOCUMENT RETRIEVAL INFORMATION

Report No.	Publication date	No. of pages	ISBN
200605559	3 April 2007	8	978-1-921164-59-0

Publication title

Loss of control - Canyonleigh, NSW - 19 September 2006 - N-73410, Boeing Stearman.

Prepared by

Australian Transport Safety Bureau
PO Box 967, Civic Square ACT 2608 Australia
www.atsb.gov.au

Reference No.

Apr2007/DOTARS 50188

Acknowledgements

Photograph of the post-accident aircraft courtesy of the aircraft owner. Photograph of flight controls lock obtained from owner's webpage.

Abstract

On 19 September 2006, at approximately 1630 Eastern Standard Time, the pilot of a Boeing Stearman, registered N-73410, experienced a control problem while taxiing. The pilot reported that while conducting engine and power checks the aircraft inadvertently became airborne after hitting a bump on the airstrip that coincided with a gust of wind. He decided to continue with the takeoff intending to complete a circuit and return the aircraft to the airstrip. The pilot reported that after banking to the left, he lost aileron control and the aircraft impacted the ground, flipped over and came to rest in an inverted position. The passenger received minor injuries and the pilot was uninjured. The aircraft was substantially damaged.

The pilot stated that prior to the accident he had engaged the flight controls lock on the aircraft while it was stationary on the airstrip. He reported that during the taxi runs he discovered that the flight controls lock was still engaged so he unlocked it. He subsequently believes that this action was unsuccessful and was why he was unable to control the aircraft during the takeoff.

Five witnesses, who had earlier in the day assisted the pilot to move furniture, reported that they understood from the pilot that if the weather conditions were suitable, three of them would get a flight in the Stearman. The aircraft did not have a current maintenance release and was not airworthy.

The investigation was unable to reconcile the discrepancies between the pilot and witness reports.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal Bureau within the Australian Government Department of Transport and Regional Services. ATSB investigations are independent of regulatory, operator or other external bodies.

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. Accordingly, the ATSB also conducts investigations and studies of the transport system to identify underlying factors and trends that have the potential to adversely affect safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and, where applicable, relevant international agreements. The object of a safety investigation is to determine the circumstances in order to prevent other similar events. The results of these determinations form the basis for safety action, including recommendations where necessary. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations.

It is not the object of an investigation to determine blame or liability. However, it should be recognised that an investigation report must include factual material of sufficient weight to support the analysis and findings. That material will at times contain information reflecting on the performance of individuals and organisations, and how their actions may have contributed to the outcomes of the matter under investigation. 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.

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. While the Bureau issues recommendations to regulatory authorities, industry, or other agencies in order to address safety issues, its preference is for organisations to make safety enhancements during the course of an investigation. The Bureau prefers to report positive safety action in its final reports rather than making formal recommendations. Recommendations may be issued in conjunction with ATSB reports or independently. A safety issue may lead to a number of similar recommendations, each issued to a different agency.

The ATSB does not have the resources to carry out a full cost-benefit analysis of each safety recommendation. The cost of a recommendation must be balanced against its benefits to safety, and transport safety involves the whole community. Such analysis is a matter for the body to which the recommendation is addressed (for example, the relevant regulatory authority in aviation, marine or rail in consultation with the industry).

FACTUAL INFORMATION

On 19 September 2006 at approximately 1630 Eastern Standard Time[1], the pilot of a Boeing Stearman aircraft, registered N-73410, experienced a control problem while taxiing. The pilot reported that the aircraft inadvertently became airborne and subsequently rolled to the left, impacted the ground, flipped over and came to rest in an inverted position (figure 1). The passenger received minor injuries and the pilot was uninjured. The aircraft was substantially damaged.

Figure 1: Boeing Stearman in paddock next to runway

On the day of the accident, the pilot had removed the Stearman from a hanger and parked it outside to make room for a furniture delivery. It had been pre-arranged that five other people would assist the pilot in moving the furniture into the hanger. The pilot reported that the wind became blustery, so he engaged the flight controls lock on the aircraft (figure 2), which he did not normally do while it was parked outside.

Figure 2: Flight controls lock on N73410 before the accident

1 The 24 hour clock has been used in this report to describe the local time, Eastern Standard Time (EST), as particular events occurred. EST was Coordinated Universal Time (UTC) + 10 hours.

Conditions did not improve, so he moved the aircraft back into the hanger. Further delays occurred with the furniture delivery, so at approximately 1600, the pilot decided to conduct engine and power checks on the aircraft as ‘it had not been run for a while’. The pilot reported that the aircraft was not airworthy at the time as it did not have a current maintenance release. Consequently, he could not fly the aircraft. His reported intention was to do a high speed taxi along the airstrip located on the property. He decided to take a passenger who ‘wanted to hear a radial engine’. The pilot reported that he did not do a walk-around or a pre-flight check of the aircraft. The passenger reported later that a safety briefing was not conducted.

While conducting the taxi, at an estimated groundspeed of 30 kts, the pilot reported that he felt no control. He checked and found that the flight controls lock was engaged. He reported that he released the lock and commenced a second taxi along the strip. The pilot reported that during that taxi run ‘the wind then got up, [the aircraft] hit a bump and bang I’m airborne’. At that time, he decided to continue with the takeoff to complete a circuit, as the runway slope would have made it difficult to flare the aircraft and to land. He applied full power and when he banked to the left, at approximately 40°, had no aileron control and the aircraft impacted the ground. He believes that the flight controls lock had remained engaged and had prevented him from controlling the aircraft.

The passenger and the four other people that witnessed the accident reported that they understood that if the weather conditions were suitable, the pilot would take three of them for a flight in the Stearman in appreciation of their assistance with moving the furniture. The passenger reported that the pilot checked all the instruments prior to taxiing. The passenger reported seeing the aileron, rudder and elevator moving freely at this time. He also felt the control stick hitting him in the left leg during flight. The passenger reported that after the takeoff and at approximately 100 ft above ground level (AGL), the aircraft’s nose went up, and it turned to the left. The wing then ‘stalled’ before rolling back to the right, and then hitting the ground. The pilot assisted the passenger in vacating the aircraft.

Reports from three witnesses were that the aircraft flew ‘low’ over the runway before climbing and commencing a ‘very tight left turn’. The aircraft disappeared from view and the sound of an impact was then heard. One witness also indicated that there were some gusts of wind before the taxi, but around the time that the aircraft took off, the windsocks ‘weren’t really blowing at all’.

The pilot had an airline transport pilot’s licence with approximately 11,600 hours on a range of large transport category aircraft. He had been a training captain on the Boeing Company 747 and had flown many years as pilot in command and as a first officer. He had also been granted a US Federal Aviation Administration (FAA) airframe and powerplant licence. The aircraft was registered by the FAA and was required to comply with Civil Aviation Safety Authority (CASA) regulations[2]. In 1999, CASA issued a type acceptance certificate for the aircraft in the aerobatic category.

The investigation could not reconcile the discrepancies between the pilot and witness accounts of the event. However, whatever the actual circumstances, it was likely that the accident would have been prevented if the pilot had prepared the aircraft for flight before taxiing. Had the pilot completed a pre-flight inspection, the

---

2 Section 91.703 Operations of civil aircraft of U.S. registry outside of the United States.

flight controls lock would probably have been disengaged and the aircraft would have been capable of being controlled when taxiing or during flight.

The ATSB did not conduct an on-site investigation.