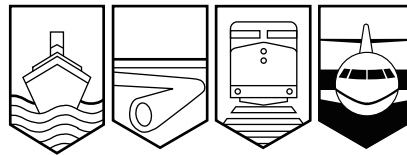


Transportation Safety Board  
of Canada



Bureau de la sécurité des transports  
du Canada

**AVIATION INVESTIGATION REPORT**  
**A00P0195**



**LOSS OF CONTROL**

**CESSNA 310R C-GRSJ**  
**GOLDEN, BRITISH COLUMBIA, 3 NM NNE**  
**02 OCTOBER 2000**

**Canada**

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

## Aviation Investigation Report

### Loss of Control

Cessna 310R C-GRSJ

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Report Number A00P0195

### *Summary*

The privately owned and operated Cessna 310R, serial number 310R0015, departed from the Golden Airport (CYGE), British Columbia, at about 1430 mountain daylight time for a local flight. The aircraft was observed making two passes just above treetop height over the pilot's residence. On the second pass, as the aircraft passed over a stand of trees near the house, the nose abruptly pitched down, and the aircraft struck the ground at about a 45-degree angle. The pilot, who was the sole occupant, was fatally injured. The aircraft was destroyed by the impact and the subsequent fire.

*Ce rapport est également disponible en français.*

## *Other Factual Information*

The accident occurred in visual meteorological conditions. Clouds were reported to be broken at 9000 feet above ground level, and visibility at the accident site was 30 statute miles. The winds were variable and gusty.

The pilot departed the Golden Airport in C-GRSJ at about 1430 mountain daylight time.<sup>1</sup> It was the habit of the pilot to fly low over his residence, at high speed, when he was departing from or returning to the airport. At about 1432, he made a pass over his residence, followed by a second pass. The second pass was lower and slower than was his habit. The engines sounded normal during these manoeuvres; however, as the aircraft passed over a stand of 22-metre-high trees near the pilot's house, the nose dropped abruptly. The aircraft descended at about a 45-degree angle and struck the ground about 24 metres from the base of the trees.

Passengers who had flown with the pilot during his low passes near his house indicated that the aircraft's stall warning horn "normally" or "sometimes" sounded when the aircraft was turning at the back of the valley or in front of the house.

The aircraft wreckage was examined to the extent possible. The distance from the initial impact mark to the main wreckage was 48 metres. Some smaller pieces of wreckage travelled a further 30 metres. The impact marks were arranged in a single, straight row between the initial mark and the main wreckage. Both engines separated from the aircraft at impact, and the propellers separated from their respective engines. Both propellers exhibited similar damage patterns. The engine dual tachometer was recovered and inspected. The tachometer was heavily damaged, and the needle that indicates the right engine's revolutions per minute (rpm) was not found. However, a needle slap mark on the gauge face indicates that at least one of the two needles was pointing at 2400 rpm at impact. Control continuity was not established because of the extent of the post-impact fire.

The pilot held a valid Canadian private pilot licence—aeroplane (PPL) that was endorsed by Transport Canada with the appropriate ratings to operate an aircraft of that class and type. His most recent flight medical examination had been conducted on 02 December 1999. At that time, he reported having a total flying time of 700 hours. On the day of the accident, he appeared to be in good spirits and, over the previous 72 hours, had not complained of any health problems. Test results for the presence of common drugs were negative.

The aircraft's journey log was not recovered and was presumed lost in the post-impact fire. The technical logs, which were recovered from the pilot's hangar, indicate that the aircraft's total time as of the last recorded flight (28 July 2000) was 3124 hours. An annual inspection had been completed on 12 July 2000.

## *Analysis*

The aircraft appeared to be in controlled flight, and the engines were heard operating normally until immediately before impact. The pattern of impact marks on the ground indicates that the aircraft struck the ground while banked 90 degrees. The propellers exhibited damage indicating

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<sup>1</sup> All times are mountain daylight time (Coordinated Universal Time minus six hours).

that they were likely turning at equal speed. Examination of the engine dual tachometer revealed that at least one engine indicated 2400 rpm. This is within the engine's normal flight operating rpm range (green band). Therefore, both engines were likely operating normally during the accident flight.

The aircraft's slow and low flight path, the abrupt pitch change to a nose-low attitude, and the nose-low angle of impact are indicative of an aerodynamic stall close to the ground. Anecdotal information indicates that it was not unusual for the pilot to be flying close to the stall speed of the aircraft during his low passes. Because the aircraft was being operated at a low height, the pilot would not have had sufficient altitude and time to recover. However, since control continuity could not be established, the accident could also have been caused by an undetected control fault.

### *Findings as to Causes and Contributing Factors*

1. The pilot often flew low over his residence; however, on the accident flight, he operated the aeroplane lower and slower than usual.
2. The aeroplane almost certainly experienced an aerodynamic stall at a height too low for the pilot to recover before the aircraft struck the ground.

*This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board authorized the release of this report on 08 November 2001.*