

AVIATION OCCURRENCE REPORT

LOSS OF CONTROL (STALL)

ORILLIA AVIATION LTD

CESSNA 150 C-GAXG

ORILLIA, ONTARIO

17 AUGUST 1996

REPORT NUMBER A9600153

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 Occurrence Report

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Cessna 150 C-GAXG  
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Report Number A96Ø0153

### *Summary*

The aircraft alternator had recently been replaced, and the pilot decided to test fly the aircraft before taking passengers on a planned local flight. At approximately 1515 eastern daylight time the aircraft took off from runway 22, climbed to about 500 feet above ground level, turned back and flew a low pass over runway 04. It then entered the downwind leg of runway 12, flew a low pass over the runway and made a turn back toward runway 30. At some point during, or prior to the last turn, some people reported a loud “pop” sound. The aircraft then made a single, continuous turn to align with runway 30. Descriptions of the flight path indicated that all turns were steep; bank angle descriptions varied between 60 and 90 degrees. During the final turn the aircraft stalled, descended, and struck the ground. The aircraft was upright and nose-down at the first point of impact; it then bounced, nosed-over and came to rest inverted. The pilot died as a result of injuries received during the accident.

*Ce rapport est également disponible en français.*



## *Other Factual Information*

Weather conditions at the airport were reported as clear sky and calm winds, with the temperature between 24 and 26 degrees Celsius.

The Cessna 150 was owned by Orillia Aviation but had recently been under lease to another aviation flying school. The aircraft was returned to Orillia Aviation on 13 August 1996. At that time, to address an electrical problem, the alternator was replaced. No other problems or discrepancies were reported.

The aircraft was found, inverted, in the brush short of the threshold of runway 30. Impact marks in the soil showed that the aircraft was 94 metres from the runway when all three wheels touched down. It then bounced, nosed over and came to rest inverted, about 8 metres closer to the runway. The aircraft remained largely intact but the fuselage was broken to the left behind the baggage area. The nose landing gear strut had been bent straight backwards and the cockpit area was compressed. All flight control systems were intact and continuous.

The wing flaps were found in the up position, which is contrary to the full flap position the pilot normally used for landing. The flap motor was tested and determined to have been operational at the time of the accident. The engine throttle was back at a low power or idle setting. Subsequent laboratory examination showed that the engine tachometer was indicating 2200 rpm at impact. When the engine was dismantled no defects were noted that would have prevented the engine from developing full power. However, the finger screen in the carburettor had been removed and a pipe fitting had been screwed directly into the carburettor. (It should be noted that these threads are not compatible.) It could not be determined when this had been done, but there was no contamination inside the carburettor bowl.

There was no mechanical explanation for the reported "pop" sound.

There was a small, post-crash fire that started in the engine compartment. Fuel, which was leaking from the fuel strainer bowl and the carburettor, had run along the engine tachometer cable into the cockpit area and this had caused a small amount of interior fire damage.

The Cessna 150 *Pilot Operating Handbook* indicates that the aircraft stalls in a wings-level attitude, with flaps up, at 46-47 knots indicated airspeed. In a 60 degree bank, the aircraft will have a stall speed of 66 knots; in a 75 degree bank, the aircraft will stall at 92 knots. TSB Engineering Branch examination of the airspeed indicator determined that it was indicating 50 knots when the aircraft struck the ground.

The pilot had been licenced as a private pilot since 1979, and had accumulated approximately 2,200 hours. His last aviation medical was on 9 August 1995, and he was assessed as fit for a category 3 medical. After the accident, it was learned that the pilot had been prescribed Prozac (an anti-depressant) in January 1994. This information had not been communicated to the Aviation Medical Examiner or to Transport Canada Civil Aviation Medicine. Had this information been communicated, the pilot's licence would likely have been suspended. On the day of the accident, the pilot was described as being alert and in good humour. Toxicological samples examined after the accident showed ethyl alcohol in the pilot's blood of 11 mg/100ml; by comparison, the legal limit for driving is 80 mg/100ml. Also found in the pilot's blood was fluoxetine (Prozac) of

0.025mg/100ml and a trace of chlorpheniramine (non-prescription antihistamine/decongestant). There was no evidence of putrefaction found during autopsy. The amount of alcohol is consistent with the pilot having had at least one alcoholic drink within eight hours prior to the flight.

To address the risks associated with alcohol and drug consumption, Canadian Aviation Regulation 602.03 specifies the following:

- No person shall act as a crew member of an aircraft
- (a) within eight hours after consuming alcohol;
  - (b) while under the influence of alcohol; or
  - (c) while using any drug that impairs the person's faculties to the extent that the safety of the aircraft is endangered in any way.

## *Analysis*

When the aircraft was examined, the only discrepancy identified was the missing carburettor inlet screen, and this was not a factor in the accident. The aircraft flight controls were examined in detail and determined to have been fully functional at the time of the occurrence. Since the aircraft flight controls were intact and functional, the steep banked turns that caused the aircraft to stall during the turn to final were likely pilot-induced manoeuvres. The functional flight controls also mean that the pilot would have been able to recover from a stall, had there been sufficient altitude. The three landing gear marks at the beginning of the wreckage trail indicate that the aircraft was in a relatively wings-level, nose-down attitude when it hit the ground. In this attitude the aircraft's speed would have been increasing, and it is likely the pilot was in the process of recovering from the stall when the aircraft struck the ground.

The aircraft flaps were found in the fully retracted position, which was not consistent with the pilot's normal landing configuration. From this it can be concluded that the pilot was either intending to select full flap on final approach or that he had no intention of landing on this approach.

It is unlikely that the amount of ethyl alcohol found in the pilot's blood and urine would have, of itself, impaired the pilot's ability to handle the aircraft. There is no measurement of how the Prozac might have affected his performance nor is there any way to measure the combined effect of alcohol, Prozac, and the antihistamine. The specific air regulations regarding alcohol and drugs, applicable to all pilots, were enacted to minimize the negative affects of alcohol and drugs on pilots' flying skills.

The following Engineering Branch report was completed:

LP 121/96 - Instrument Analysis

## *Findings*

1. The carburettor fuel inlet screen had been removed, and the aircraft had been operated without the screen for an unknown period of time.
2. The pilot had not revealed his prescription for, and use of, Prozac at his last aviation medical.
3. It is probable that the pilot had ingested alcohol within eight hours of the flight.
4. The aircraft stalled during a turn to final approach, and the pilot was not able to recover before the aircraft struck the ground.

### *Causes and Contributing Factors*

The aircraft stalled as the pilot was conducting a turn from downwind to final approach. The pilot was not able to recover from the stalled condition before the aircraft struck the ground.

*This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 25 February 1998.*