

AVIATION OCCURRENCE REPORT

A9800139

LOSS OF CONTROL - STALL

TORONTO AIRWAYS LTD.

CESSNA 150M C-GSCN

COPPINS CORNERS, ONTARIO 1.5 nm S

08 JUNE 1998

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.

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### *Summary*

The instructor and student departed the Toronto/Buttonville Municipal Airport, Ontario, on a training flight to the northeast. Approximately 50 minutes later, the aircraft struck the ground in the training/practice area and came to rest beside a road. Both occupants of the aircraft sustained fatal injuries during the impact.

*Ce rapport est également disponible en français.*

## *Other Factual Information*

Visual flight rules (VFR) weather conditions prevailed at the time of the occurrence. At 1200 eastern daylight time (EDT)<sup>1</sup>, the weather at Toronto/Buttonville Municipal Airport, located 16 nautical miles (nm) to the southwest of the occurrence location, was reported as wind 330 degrees true at 12 knots, visibility 15 statute miles, broken cloud based at 3 800 feet above ground level (agl), temperature 18 degrees Celsius, dew-point 8 degrees Celsius, and altimeter setting 30.12 inches of mercury, with the remark that the broken layer of cloud was 5 octas.

Records show that the instructor was licensed and qualified in accordance with all existing regulations to conduct the lesson. The instructor had received an instructor rating on 08 May 1998 and had accumulated approximately 398 total flying hours, 75 hours of which was instructing experience at the time of the occurrence. The student had accumulated approximately 6.1 hours of total flying time. Based on the medical information, there is no indication that either the instructor's or the student's performance was degraded by physiological factors. The planned exercises for the lesson during the flight were slow flight and stalls. The student's pilot training record indicates that the instructor had conducted the same two exercises during the previous lesson. These lessons would normally be carried out at an altitude such that recovery would have been completed by a minimum of 2 000 feet agl. It was not possible to determine at what altitude the instructor was conducting the lesson.

The aircraft departed the Toronto/Buttonville Municipal Airport at approximately 1145 and was seen briefly just before impact travelling from north to south, parallel to a road. The aircraft's engine could be heard before the aircraft came into view, but shortly after it came into view the sound of the engine was greatly reduced. The nose of the aircraft pitched up, but then dropped down immediately. The aircraft was rolling significantly, alternating from left to right at an estimated altitude of less than 100 feet agl. It then disappeared from view and came to rest approximately 1 540 feet south of where it was last seen. The aircraft struck a tree with the right wing immediately before impacting the ground beside a road in a steep nose-down attitude which exceeded 60 degrees. The aircraft came to rest where it impacted the ground.

A detailed examination of the aircraft, its systems, and the engine revealed no indication of any pre-existing damage which would have contributed to the cause of the accident or have prevented the engine from developing rated power. Examination of the spinner, the propeller, the carburettor, and the cockpit, and witness information indicate that the engine was probably at a low power setting. Witness marks on the control surfaces and on adjacent aircraft structures were noted. The flaps were retracted at the time of impact. The weight and centre of gravity were within the prescribed limits at the time of the occurrence.

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<sup>1</sup> All times are EDT (Coordinated Universal Time minus four hours) unless otherwise noted.

## *Analysis*

The information gleaned from the examination of the wreckage indicates that the engine was not developing high power at impact; it is probable that the throttle was positioned at a low power setting.

Damage to the aircraft, the eyewitness account of the last few moments of the flight, and analysis of the wreckage indicate that the aircraft struck the ground at a low forward speed and a high rate of descent, which is consistent with an aircraft in a stalled condition. To recover from a stall, the control column is moved forward commanding down elevator to increase the airspeed and air flow over the wing. The witness marks on the flight control surfaces indicate that, immediately before impact, the ailerons were commanding a left roll, the rudder was deflected fully to the left and the elevators were commanding nose up.

It could not be determined why the aircraft was not recovered from the stall before it struck the ground.

## *Findings*

1. Records show that the aircraft was operated and maintained in accordance with existing regulations.
2. Records show that the instructor was licensed and qualified to conduct the flight.
3. There was no indication that incapacitation or physiological factors affected the crew's performance.
4. There was no indication of any pre-impact damage to the engine which would have prevented it from developing rated power.
5. There was no indication of malfunction or component failure of the aircraft that would contribute to the cause of the accident.
6. The aircraft's gross weight and centre of gravity were within allowable limits at the time of the occurrence.
7. The aircraft stalled and recovery was not accomplished.
8. The aircraft struck the ground in a steep nose-down attitude.

## *Causes and Contributing Factors*

It was not possible to determine why the aircraft stalled or why the stall recovery was not accomplished before the aircraft struck the ground.

*This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benôt Bouchar, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 06 May 1999.*