

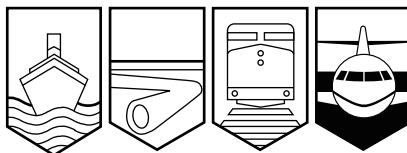
Transportation Safety Board
of Canada



Bureau de la sécurité des transports
du Canada

AVIATION INVESTIGATION REPORT

A99O0244



COLLISION WITH OBJECT – WIRESTRIKE

LAKELAND AIRWAYS LIMITED

CESSNA A185F C-GDIV

TEMAGAMI, ONTARIO 6 NM S

13 OCTOBER 1999

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

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Report Number A99O0244

Summary

The pilot and two passengers departed from Boyce Lake, Ontario, in the float-equipped Cessna A185F aircraft, serial number 18503977, on a visual flight rules flight to Temagami, Ontario, a distance of approximately 15 nautical miles. At approximately 0915 eastern daylight time, a witness near a transmission tower south of Temagami heard an aircraft approaching. The aircraft subsequently came into view, and almost as soon as it was visible, the aircraft struck the anchor wires of the transmission tower and then the tower. The aircraft descended to the ground where an explosion occurred and an intense, post-crash fire broke out. None of the occupants of the aircraft survived.

Ce rapport est également disponible en français.

Other Factual Information

The pilot held a valid commercial pilot's licence with the appropriate endorsements to conduct the flight. He had accumulated approximately 550 hours of total flying time, approximately 220 hours of which was on the occurrence aircraft type. There was no indication that incapacitation or physiological factors affected the pilot's performance.

Just prior to the accident flight, the pilot had flown from Temagami to Boyce Lake to pick up the two passengers. During this flight, he reported by radio twice but gave no indication during the transmissions that he experienced any navigational difficulties en route due to weather. During times of deteriorating meteorological conditions, the pilot was known to have landed on a lake en route to wait for an improvement in the conditions.

No aviation weather reports or aerodrome forecasts (TAF) are available for Temagami. However, on the day of the occurrence, a weather package, including significant meteorological reports (SIGMET), area forecasts (FA),¹ aviation routine weather reports (METAR), TAFs, wind and temperature aloft forecasts (FD), notices to airmen (NOTAMS) and radar reports, was faxed to the operator from NAV CANADA's Canadian Sault Ste. Marie flight service station. The occurrence flight route was covered by the weather package and was available to the pilot prior to his departure.

An FA for the area in which the occurrence took place, valid for the time of the occurrence flight, was issued at 0730² that day. In general, clouds and weather were forecast as follows: a broken, occasionally scattered layer of cloud based at 3000 feet asl with a prevailing visibility of 6 sm. Areas with visibility of 2 sm in rain showers and mist were forecast and local ceilings of 400 to 1000 feet agl in precipitation, with occasional visibility of 1 to 3 sm in mist.

The TAF for North Bay, 42 miles south of the occurrence site, valid for the period from 0700 to 1900, was in part as follows: forecast visibility of greater than 6 sm; forecast cloud layers were broken at 2500 feet and overcast at 8000 feet. Between 0700 and 1500, the forecast called for temporary visibility of 3 sm in light rain showers and mist, and an overcast cloud layer at 1200 feet. Between 0700 and 1000, there was a 40 percent probability that the prevailing visibility would be 2 sm in light rain, thunderstorms, and mist with an overcast cloud layer at 1000 feet.

The TAF valid for the time of the occurrence for Sudbury, 47 miles southwest of the occurrence site, was as follows: winds from 180°T at 10 kt; visibility greater than 6 sm; broken cloud at 2500 feet, overcast cloud at 8000 feet. Between 0700 and 1500, the forecast called for a temporary visibility of 3 sm in light rain showers and mist; overcast cloud at 1000 feet.

1 For Area Forecasts (FA), all heights are above sea level (asl) unless otherwise noted. For aviation routine weather reports (METAR) and TAFs, all heights are in feet above ground level (agl); all visibilities in statute miles (sm); all wind directions are in degrees True (°T); and all wind speeds are in knots (kt).

2 All times are eastern daylight time (EDT) (Coordinated Universal Time (UTC) minus four hours) unless otherwise stated.

The following METARs were reported:

North Bay:

0845: wind from 180° at 4 kt; visibility 3 sm in light rain and mist; sky overcast at 300 feet.

0900: wind from 170°T at 4 kt with a visibility of 8 sm; an overcast sky condition based at 300 feet; the temperature and dewpoint were both 8 degrees Celcius (°C) and the altimeter setting was 29.69 inches of mercury. In the remarks section, it was noted that the visibility to the north north-east and the south south-east was 1 sm in fog.

0908: wind 290°T at 2 kt; visibility 3 sm in light rain and mist; sky overcast at 400 feet.

0920: wind 330°T at 2 kt; visibility 2 sm in light rain and mist; sky overcast at 400 feet.

0948: wind 350°T at 2 kt; visibility 2 sm in light rain and mist; sky overcast at 200 feet.

Sudbury:

0900: wind 240°T at 1 kt; visibility 1.5 sm in light rain and mist; sky overcast at 300 feet; temperature and dewpoint both 9°C. In the remarks section, fog was noted.

0912: wind 360°T at 1 kt; visibility 1.25 sm in light rain and mist; sky overcast at 200 feet; fog was noted in the remarks section.

0924: wind 340°T at 3 kt; visibility 1 sm in light rain and mist; sky overcast at 300 feet; fog was noted in the remarks section.

At the time of the occurrence, weather in the area was reported as being variably foggy with occasional drizzle falling. Approximately 1400 feet from the tower which was struck, it was reported that its lights were visible, though not clearly because of drizzle and fog. The aircraft could be heard approaching the area but was not sighted until an instant before the collision with the tower. Within 30 minutes of the occurrence, a second company aircraft with two company employees departed the float base to search for the downed aircraft. The horizontal visibility was reported as good, but the high ground on which the tower was located was hidden from view by low cloud. The search aircraft passed within one mile of the accident site on more than one occasion while the wreckage was still burning and neither occupant saw the wreckage or smoke.

The approximate elevation of the hill on which the tower stood was 1300 feet asl. The tower was approximately 250 feet high and was painted alternately white and orange with lights at the mid-point and the top. The tower lighting and markings were appropriate for the structure in accordance with regulations. It appeared on the Sault Ste. Marie visual flight rules navigation chart and also on the map which the pilot used for navigation. It was reported that the pilot was aware of the tower and its location. The tower was last inspected on 08 October 1999 and the lighting was reported as functioning at that time. It was reported that the tower obstruction lights were on at the time of the occurrence. Two light bulbs from the top of the tower were

unbroken during its collapse. These bulbs were removed from the site, tested, and were found to be serviceable. The electrical cables for the tower lighting system were not severed during the tower's collapse; serviceable light bulbs were installed in the light sockets and functioned normally when the power was restored to the wiring. On the day of the occurrence, the transmission signal from the tower reportedly ceased at 0916.

Immediately after ground impact, an intense, post-crash fire broke out and the aircraft was consumed almost completely. The airframe, engine, and aircraft systems were examined to the degree possible. No indication of any airframe failure or system malfunction was discovered.

Analysis

The pilot was certified and qualified for the flight in accordance with existing regulations. There was no indication that incapacitation or physiological factors affected the pilot's performance.

Information gathered indicated that there were no airframe failures or system malfunctions prior to or during the flight and that the engine was operating.

The tower was appropriately painted. Its lighting was in accordance with existing regulations and was turned on at the time of the accident. Its location was depicted on the map used by the pilot for navigation.

The weather information available to the pilot prior to the occurrence flight was adequate and accurate. There was no indication that deteriorating weather conditions were encountered on the flight from Temagami to Boyce Lake; however, on the return trip, the pilot encountered an area of showers and reduced visibility. The pilot likely did not see the tower and anchor cables in time to avoid the collision.

Findings as to Causes and Contributing Factors

1. The pilot continued flight in deteriorating meteorological conditions and likely did not see the tower and anchor cables in time to avoid the collision.

Other Findings

1. The pilot was certified and qualified for the flight in accordance with existing regulations.
2. There was no indication that incapacitation or physiological factors affected the pilot's performance.
3. No indications of any airframe failure or system malfunction prior to or during the flight were found.
4. The tower painting and markings were appropriate for the structure, in accordance with regulations. The lighting was reported as functioning at the time of the accident. The tower appeared on the map used by the pilot to navigate.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board authorized the release of this report on 31 August 2000.