Transportation Safety Board of Canada | Bureau de la sécurité des transports du Canada

Canada

Air 2000

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
Controlled Flight into Terrain
Cessna 185F N90151
Smithers, British Columbia 80 nm NW
28 September 2000

Report Number A00P0194

Summary

The Cessna 185 aircraft, serial number 18503651, was purchased in Spokane, Washington, USA, on 27 September 2000 and test flown by the pilot that day. The vendor certified that all of the required maintenance was accomplished before selling the aeroplane. The next day the pilot departed Deer Park (north of Spokane), on a ferry flight to Alaska. At about 1200 Pacific daylight time, the aeroplane landed in Smithers, British Columbia, after a flight from Williams Lake. The pilot had the aeroplane refuelled, received a weather briefing, and filed a flight plan. The flight-planned route was from Smithers direct to Dease Lake, then direct to Whitehorse, Yukon. At 1217, the pilot and two passengers departed Smithers. At 1317, the Cospas-Sarsat system,(1) received an emergency locator transmitter signal from an area about 80 nautical miles northwest of Smithers. Search-and-rescue aircraft were dispatched; however, weather conditions hampered the search. The wreckage of the Cessna 185 was found at 1310 the next day at 5100 feet above sea level on a snow-covered, treeless hillside, at latitude 56º08' north and longitude 128º16' west. No fire had occurred. The three occupants were fatally injured.

Ce rapport est également disponible en français.

Other Factual Information

The weather in Smithers at 1200 Pacific daylight time (PDT)(2) was as follows: few clouds at 4000 feet above sea level (asl), broken clouds at 6000 feet, overcast at 9000 feet, and visibility 25 miles in light rain showers. The forecast weather for the route north of Smithers was for cloud layers at 4000 and 6000 feet and visibility reduced to 4 miles in light snow showers. The hill tops on the direct route from Smithers to Dease Lake reached about 7000 feet asl.

The wreckage was found on a snow-covered, treeless hillside. The wreckage trail was from east to west, generally following the valley. The angle of impact with the hill was not extreme, but impact forces were high, and the front of the aeroplane was broken off. The seats and two of the occupants were thrown out of the aeroplane. These two occupants were about 20 and 50 metres, respectively, ahead of the main wreckage. The third occupant remained in the wreckage. The instrument panel was broken away, and the engine revolutions per minute (rpm) indicator face was smashed on impact. The engine rpm pointer was pasted at the 2400 rpm position, a normal cruise power setting. The engine was not found.

The aeroplane was equipped with a global positioning satellite receiver. Radar tapes indicate that the aeroplane was flying directly on course on the flight leg between Williams Lake and Smithers, as it would be if the pilot were navigating using the global positioning system. There was no radar coverage for the route from Smithers to Dease Lake.

The pilot held a private pilot licence for visual flight rules only. At the time of his last flight medical examination, on 5 February 1998, he had accumulated about 400 hours and was in good health. An autopsy revealed no medical anomalies or toxins that would have affected his performance.

Analysis

Since the aeroplane was equipped with a global positioning system and the previous flight was flown on a direct course, it is likely that the accident flight leg was initiated on a direct course, taking it into the high terrain.

Because of the time that had elapsed and the direction of flight on impact, it is likely that the pilot was trying to fly the aeroplane out of the high terrain. He may have tried to fly toward a visual flight rules route that is west of the direct track from Smithers to Dease Lake. The terrain on this direct track rises to about 7000 feet asl. With cloud layers forecast at 4000 to 6000 feet asl and visibility four miles in light snow showers, the pilot would likely have encountered instrument meteorological conditions in areas of high terrain. The pilot would have had difficulty seeing the snow-covered, treeless hillside because of the reduced visibility and the lack of distinguishing ground features. It is possible that he lost situational awareness and did not see the terrain in time to avoid it.

The aeroplane was probably flying in a controlled manner until impact, as indicated by the normal cruise engine power setting, the contact angle of the aeroplane with the terrain, the generally straight wreckage trail, and the ejection of the two occupants ahead of the wreckage. When an aircraft is functioning normally and inadvertently flown into the ground, water, or an obstacle, the accident is termed controlled flight into terrain (CFIT). There were no indications that the aircraft was not functioning normally, and, therefore, it is most likely that this was a CFIT accident.

Many organizations have recognized the need to educate operators and flight crew with the aim of reducing the number of CFIT accidents. Transport Canada has made a video entitled *Situational Awareness: Preventing CFIT*, available from Transport Canada, System Safety, offices. The US Federal Aviation Administration has also targeted education for pilots in all areas of aviation operations. An international CFIT task force has developed *CFIT Education and Training Aid*, available from the International Civil Aviation Organization. This aid is designed to help users develop and deliver training to prevent CFIT accidents.

Findings as to Causes and Contributing Factors

1. The aeroplane struck a hillside, probably while in controlled flight, for undetermined reasons.

Findings as to Risk

1. It is probable that the pilot continued visual flight in adverse weather conditions, which increased the risk of collision with terrain.

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

report on 24 May 2001.

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1. *Cospas-Sarsat* is a satellite system designed to provide distress alert and location data to assist search and rescue (SAR) operations.

2. All times are PDT (Coordinated Universal Time minus seven hours).

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http://www.tsb.gc.ca/en/reports/air/2000/a00p0194/a00p0194.asp