

No. 6

Quebecair Limited, DC-3C, CF-GVZ, crashed while attempting a forced landing at Oreway, Labrador, on 17 January 1956. Report released by Department of Transport, Canada, Serial No. 56-1

Circumstances

At approximately 1436 hours Atlantic Standard Time on 16 January the aircraft took off on a non-scheduled flight from Mont Joli, Quebec, to Knob Lake via Seven Islands and arrived at Knob Lake at 2002 hours. At 2202 hours on 17 January the aircraft took off from Knob Lake on the return flight to Seven Islands via Oreway, Labrador, with a crew of three and fifteen passengers on board. The flight appears to have been normal until 2312 hours at which time, according to the navigation log, heavy to moderate rime ice was encountered and the aircraft was climbed to 10 000 feet. At 2335 hours a further note was made in the log that the oil pressure on the starboard engine had dropped to 40 pounds (per square inch) and that at 2336 hours the warning light came on and the starboard propeller was feathered. According to a statement obtained from one of the passengers and the declaration of the stewardess, the engine was subsequently re-started for about ten minutes and then stopped again. The aircraft gradually lost height on one engine and due to the hills ahead the captain decided to return to Oreway. At 0052 the aircraft crashed to the ground about 2 000 feet southeast of Oreway railway station, while a forced landing was being attempted. The captain, co-pilot and one passenger died in the accident and the stewardess died of injuries a few days later; two passengers were seriously injured and some of the remaining passengers received minor injuries.

Investigation and Evidence

A certificate of airworthiness, which was due to expire 5 March 1956, had been issued for the aircraft. Examination of both engines disclosed that one of the tubes near the periphery of the starboard engine oil cooler had a crack measuring about 1/4" by 1/20" through which an oil escape of about two gallons per minute was possible. It was considered that this crack might have been caused by a frozen water droplet in the tube. No other evidence of malfunctioning of the engine, airframe, or controls was discovered.

From calculations made by the Board, it would appear that the aircraft was overloaded when it took off from Knob Lake, the amount of the overload being of the order of 2.8% of the authorized gross weight.

The pilot was seen to examine weather reports in the radio station office at Knob Lake, but advantage was not taken of the opportunity to obtain a briefing at the meteorological office.

It was determined from an analysis of the weather situation, that a poorly defined stationary front extended from Belle Isle to Anticosti Island and Fredericton. The route between Knob Lake and Seven Islands lay in an east northeasterly flow of maritime arctic air, with an overrunning layer of maritime polar air above 10 000 feet over the southern section of the route. The general weather over the route was overcast, with light continuous snow. The cloud base was generally 2 - 3 000 feet above sea level, which would mean 1 - 2 000 feet above the ground over the higher sections. Vertical visibility in the snow was generally 1 500 - 2 500 feet at Knob Lake and Seven Islands, with horizontal visibility varying from 3/4 to 3 miles, being considerably lower in heavy snow showers. The forecasts issued at 1900 hours and 2001 hours on 16 and 17 January were not received at Knob Lake due to teletype trouble and the last forecast was, therefore, not available to the pilot of the aircraft.

The forecast issued on 16 January at 1800 hours for the Seven Islands Region indicated cloud base at 1 500 - 3 000 feet intermittent light snow and blowing snow, ceiling 1 000 - 1 500 feet arising to 2 000 feet at Seven Islands near the end of the period with visibility of 3 miles in snow and blowing snow. Light rime icing in cloud and occasional moderate to heavy mixed icing between 4 000 and 7 000 feet with a risk of clear icing in precipitation between the surface and 4 000 feet was forecast for the Seven Islands Region.

The Board concluded that the information that was available at Knob Lake did not indicate that Quebec was a suitable alternate for this flight, since the forecast indicated that icing conditions were possible and equally as critical at that point as at Seven Islands. In fact, on the basis of the information available at Knob Lake, it does not appear that a suitable alternate, within the range of the aircraft, existed at the time of departure.

Probable Cause

The aircraft was crash landed at night through inability to maintain height due to failure of the starboard engine under icing conditions when the aircraft was heavily loaded.

In addition to the facts cited by the Board it is concluded, from a review of its report, that the pilot committed an error in taking the aircraft off from Knob Lake at a weight calculated to be 729 lbs. in excess of the maximum permitted for that airfield.
