

No. 27

Pacific Western Airlines Ltd., Douglas DC-3, CF-EPI, crashed at Port Hardy Airport, British Columbia, on 23 June 1957. Report released by Department of Transport, Canada. Serial No. 57-11

Circumstances

At approximately 1411 hours Pacific Standard Time the aircraft departed Port Hardy on a scheduled flight to Vancouver with a crew of three and fifteen passengers on board. Five minutes after take-off the pilot informed the control tower that he was returning because of elevator control trouble. The aircraft made a long final approach to runway 15 and at 1420 hours touched the runway and bounced. At this point, the aircraft was observed to make an exceptionally sharp climb and it appeared that full power was applied. However, at the top of this steep climb, the aircraft stalled and fell to the ground in a nose-down attitude, the right wing striking first, and burst into flames almost instantly. The stewardess and three passengers were the only survivors.

Investigation and Evidence

As the Company's base engineer was placing thermos bottles aboard the aircraft he saw the pilot-in-command begin removing the external control locks. The pilot-in-command was observed by some of the passengers removing the rudder and aileron locks. After the engines were running the base engineer looked at the ailerons and rudder and noticed that the locks were off. He did not check the elevators to ensure that the lock was off.

The four survivors suffered only cuts, bruises and abrasions. They appear to have been thrown against the ceiling and then to the floor. The other passengers were all thrown against the bulkhead at the front of the cabin. All seats in the passenger cabin were torn loose by the impact.

The crash alarm sounded as the aircraft struck the ground and the crash truck was on the scene in 2-1/2 minutes. Due to the nature of the terrain it could only get as close as 200 feet from the wreckage and lines of water, foam and CO<sub>2</sub> were run out to the wreckage. However, the fire had progressed too rapidly to be brought under control until an hour after the crash.

Examination of the wreckage disclosed that both engines were torn loose, the right wing badly damaged and the entire fuselage burnt out from the nose to the rear bulkhead. The complete tail assembly was intact with the elevator control lock still secured to the aircraft by the bungee cord, although the lock itself was not attached to the elevator.

Subsequent to the accident, tests were carried out with the same control lock installed on another Douglas DC-3 aircraft, and the bungee cord secured in the same manner as it was found to be at the scene of the accident. It was found that the control column could be moved freely about four inches forward of the neutral position and four inches aft of neutral, with a corresponding movement of the elevators of approximately 1-1/2 to 2 inches. By exerting heavy pressure the control column could be forced fully forward causing the control lock to come out of position and jam between the elevator and the fairing on the tail cone. With the control lock in position and heavy backward pressure applied, the control column could be forced fully back causing the control lock to come entirely free.

The provisions of the Pacific Western Airlines' Flight Operations Manual require the pilot-in-command to assure himself that the elevator control locks are removed before flight.

Probable Cause

Because of a partially locked elevator, control of the aircraft was lost during an attempt to land.