

Preliminary Report

ZK-JFI Loss of Control After Takeoff

17 October 2011

Abstract

At approximately 1515 hours New Zealand Daylight Time on 17 October 2011 ZK-JFI, a Cessna 172N, was approaching to land at a private airstrip located one nautical mile to the south of Arrowtown.

During the landing and after touchdown, the pilot applied full power with the aircraft becoming airborne near the end of the airstrip. The aircraft failed to gain any appreciable altitude and shortly thereafter stalled during a left turn.

The aircraft struck the ground in a steep nose down, left wing low attitude. The pilot received fatal injuries and the two passengers received serious injuries.

Factual Information

The purpose of the flight was for the pilot and two passengers to fly to Invercargill and to return to the airstrip later that same day.

On return, at approximately 1515 hours, the pilot carried out a low pass over the airstrip in a possible attempt to clear livestock from the immediate area. The pilot then carried out a reversal turn and approached the airstrip to land from a west to east direction. A number of eye witnesses observed the aircraft at various stages during the approach and after the subsequent takeoff. The passenger seated in the front seat had also used his iphone to record the approach, landing, and takeoff.

The video taken by the passenger indicates that the pilot was having to contend with moderate crosswind conditions and turbulence from higher terrain on the southern side of the airstrip.

The aircraft is then observed to have touched down approximately 250 metres into the 450 metre airstrip followed shortly after by the pilot applying full power and attempting to takeoff in the remaining runway distance available.

Once airborne, the pilot commenced a turn to the left which placed the aircraft further out of the prevailing wind direction. The aircraft failed to gain altitude and entered a condition of stalled flight, rolling further to the left followed by impact with the ground. The aircraft was destroyed.

Injuries to persons

The pilot received fatal injuries, the two passengers received serious injuries.

Pilot information

The pilot had initially been issued with a Private Pilot's Licence (Aeroplane) in 1976. After a period of inactivity he was re-issued with a Part 61 Private Pilot's Licence (Aeroplane) in April 2010.

He had a total of approximately 315 hours flying experience at the time of the accident of which approximately 205 hours were on type. The pilot held a current Class II Medical Certificate at the time of the accident.

Weather conditions

At the time of the accident, a south-westerly wind prevailed which led to mechanical turbulence, particularly around the airstrip due to its geographical location and topography. It was estimated that the wind strength was approximately 15 knots from the direction of 210 degrees magnetic which was approximately 110 degrees right of the centreline of the airstrip.

Wreckage and impact information

The aircraft struck the ground in a steep nose down attitude while rotating to the left with low airspeed. At the point of ground impact, the right hand horizontal stabiliser and elevator had struck a small Cedar tree which caused the fuselage to fail mid-way between the cabin and tail plane. The right hand elevator remained lodged in the tree. From the initial point of impact the aircraft then slid to the right for approximately 15 metres before coming to rest upright down a small embankment. There was evidence that the engine was producing significant power when the propeller struck the ground.

Ongoing investigation activities

The investigation is continuing and will include examination of:

- The aircraft's maintenance history
- The pilot's background and experience
- Prevailing weather conditions at the airstrip
- Possible human factors that might have influenced the pilot's decision making.

If any person has information which may assist with the investigation of this accident then they may contact the Civil Aviation Authority of New Zealand at isi@caa.govt.nz. CAA accident investigations are conducted in accordance with ICAO guidelines. The sole objective of such investigations is the prevention of accidents by determining the contributing factors or causes and then implementing appropriate preventive measures - in other words restoring safety margins to provide an acceptable level of risk.

The focus of CAA safety investigations is to establish the causes of the accident on the balance of probability. Accident investigations do not always identify one dominant or 'proximate' cause. Often, an aviation accident is the last event in a chain of several events or factors, each of which may contribute to a greater or lesser degree, to the final outcome.

*The sole objective of the investigation of an accident or incident shall be the **prevention** of accidents and incidents. It is **not** the purpose of this activity to **apportion blame or liability**.*