CIVIL AVIATION AUTHORITY
OF NEW ZEALAND
Te Mana Rererangi Tūmatanui o Aotearoa

# CAA Safety Investigation Report

# Ozone Fazer 2 Speed Wing

# Controlled flight into terrain

# Port Hills Christchurch

# 18 April 2017

**CAA Final Report 17/2035**

**August 2018**

# What happened

At approximately 1030 hours on 18 April 2017 a Speed Wing[1] pilot commenced a series of speed flying flights[2] from the Port Hills Gondola area, down to the Heathcote Domain. On the third flight of the day the pilot collided with the road safety barrier on the side of Summit Road, sustaining fatal injuries.

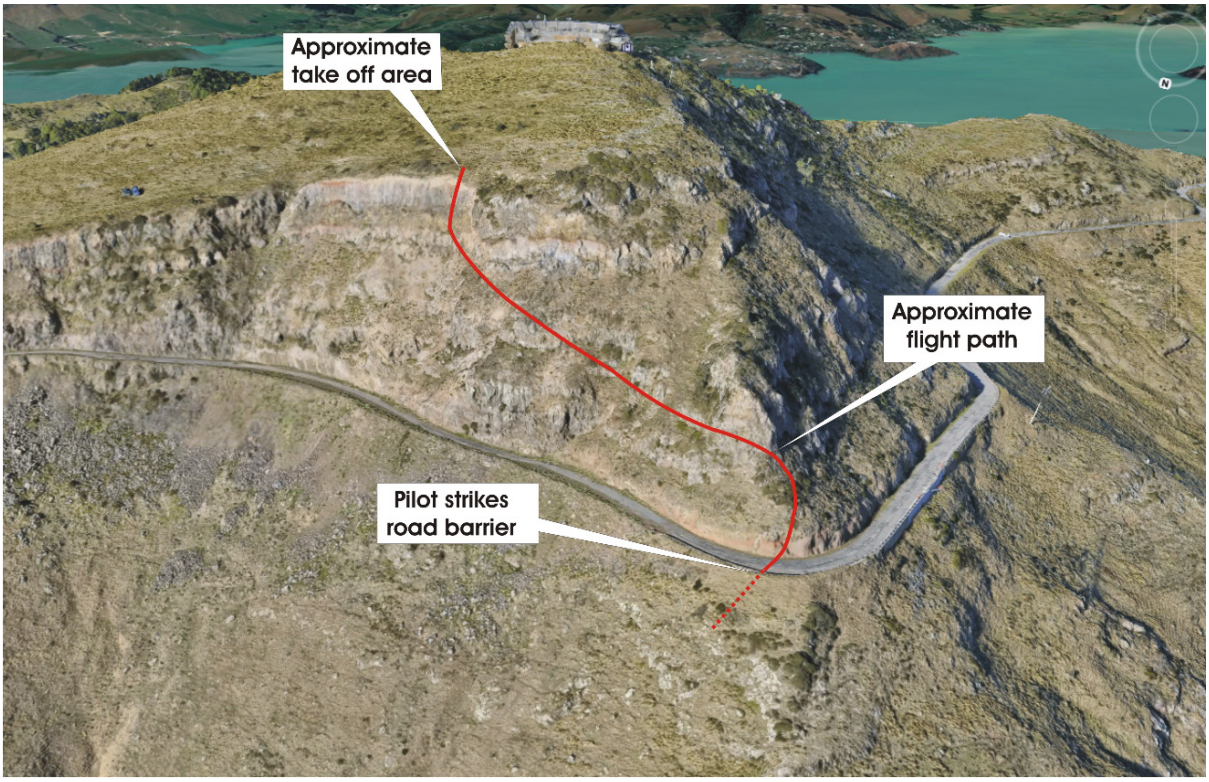


Figure 1: Recreation of approximate flight path

[1] A Speed Wing, also known as Speed Glider or Speed Flyer, is generally half the size of a paragliding wing and has a much smaller glide ratio, which promotes flying close to slopes at nearly twice the speed of a normal paragliding parachute.
[2] Speed Flying is a hybrid sport combining elements of paragliding and parachuting.

# Analysis of the circumstances of the flight

The pilot was an active member of the Canterbury Hang Gliding Paragliding Club (CHGPC) and was appropriately qualified for flying a Speed Wing. The pilot's Speed Wing had a current Warrant of Fitness and no defects were identified that may have contributed to the accident.

Weather conditions on the day were suitable for visual flight, with light winds. Weather was not considered to be a significant factor in the accident.

Video[3] of the pilot's three flights on the day were reviewed to ascertain any differences between the completed flights and the accident flight. The pilot flew the same route, at significant speed and in close proximity to the hill face, on all three flights up to the point that he crossed the road safety barrier. The pilot crossed the road safety barrier with some safety margin on the first flight, and with a reduced safety margin on the second flight. The pilot failed to avoid the road safety barrier on the accident flight and struck it at high speed.

Civil Aviation Rule (CAR) Part 91, *General Operating and Flight Rules*, requires a pilot to operate not below 500 feet above the surface other than for take-off and landing. CAR Part 106, *Hang Gliders – Operating Rules*, prescribes a limited exemption from the minimum 500 feet rule. The limited exemption permits a person to fly a hang glider below a height of 500 feet for ridge soaring, if such flight does not cause a hazard to persons or property on the ground.

The road over which the pilot flew before striking the road safety barrier is a public road. The height at which the pilot's flight path crossed the road was such that any person on the road at the time would have been struck by the pilot.

# Summary and recommendation

The pilot was suitably experienced for conducting speed flying. The pilot's elected flight path involved flying in close proximity to the terrain and at high speed, including over the road safety barrier. Review of the videos of the two successful flights showed very little safety margin was built into the pilot's flight profiles. No significant contributing factors to the accident were identified, other than the lack of safety margin in the pilot's flights.

Speed flying is an extreme sport that comes with elevated levels of risk compared with normal paragliding, due to the higher flying speeds involved, and being in very close proximity to the ground. Flying at higher speeds and in close proximity to the ground provides less reaction time for pilots to avoid obstacles. Therefore pilots should factor in greater safety margins when they are planning their flights and carrying out their pre-flight risk assessments.

Pilots and hang gliding organisations are reminded of the requirement to avoid risk to persons and property on the ground when operating low level. Pilots are required to consider suitable safety margins in terms of risk to others as well as themselves when planning flights.

[3] The pilot had an ankle-mounted video camera, and a friend, with a video recording device, was located on the hill under the flight path.

# Safety actions

## Actions already taken

### Pilots should maintain a suitable safety margin

At the New Zealand Hang Gliding and Paragliding Annual General Meeting in September 2017, a CAA Safety Investigator presented on having safety margins when conducting paragliding and speed wing flights.

## Further actions

### Education

A *Vector*[4] magazine article "Thrills, Risk, and Dying" was published in the March/April 2018 issue. The article emphasises the importance of hang glider pilots[5] having a safety margin.

The New Zealand Hang Gliding and Paragliding Association (NZHGPA)[6] is working with hang gliding clubs to ensure that potential risk to persons and property on the ground, arising from members operating from club sites, is properly assessed and mitigated.

### Regulatory

This accident has highlighted the potential risk to people and property on the ground by extreme low level operation of speed wing paragliders. The CAA has to be assured that the operation of such aircraft can be conducted without such risks.

The Civil Aviation rules are applicable to speed wing flying as a result of the definition of an aircraft in CAR Part 1.[7]

CAR Part 106 was first issued before speed wing flying was developed as a sport. No specific provision has been made in the CAR Part 106 for the unique characteristics of speed wing flying, and no specific exemption from the minimum 500 feet rule is provided for the operation of speed wing paragliders when descending in close proximity to terrain.

As such, safety action 19A35 has been raised for the CAA to conduct a Rules Review of CAR Part 106, in order to ensure that risk to persons and property on the ground from the operation of speed wing paragliders is adequately addressed.

[4] New Zealand CAA safety magazine released every two months http://www.caa.govt.nz/safety-info/vector/
[5] 'Hang glider pilots' includes paragliding, hand gliding, and speed flying pilots.
[6] The NZHGPA is the body responsible for the oversight of hang gliding and paragliding in New Zealand.
[7] Aircraft means any machine that can derive support in the atmosphere from the reactions of the air otherwise than by the reactions of the air against the surface of the earth.

# Accident Data Summary

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|---|---|
| **Aircraft make and model, registration:** | Ozone Fazer 2 paraglider, serial number FZ214 – P - 44E - 075 |
| **Year of manufacture:** | November 2014 |
| **Accident Date and time:** | 18 April 2017, 1140 hours approximately |
| **Location:** | Latitude: S43° 35′ 14.04″ |
| | Longitude: E172° 42’ 54.34″ |
| **Altitude:** | 1150 feet above mean sea level |
| **Type of flight:** | Private |
| **Persons on board:** | Crew: 1 |
| **Injuries:** | Crew: Fatal |
| **Nature of damage:** | Aircraft damaged |
| **Pilot’s licence:** | Paraglider2 (Intermediate) |
| **Pilot’s age:** | 25 years |
| **Information sources:** | Civil Aviation Authority field investigation. |

# About the CAA

New Zealand's legislative mandate to investigate an accident or incident is prescribed in the Transport Accident Investigation Commission Act 1990 (the TAIC Act) and Civil Aviation Act 1990 (the CA Act).

Following notification of an accident or incident, TAIC may conduct an investigation. CAA may also investigate subject to Section 72B(2)(d) of the CA Act which prescribes the following:

> **72B Functions of Authority**
>
> (2) The Authority has the following functions:
>
> (d) To investigate and review civil aviation accidents and incidents in its capacity as the responsible safety and security authority, subject to the limitations set out in section 14(3) of the Transport Accident Investigation Commission Act 1990

The purpose of a CAA safety investigation is to determine the circumstances and identify contributory factors of an accident or incident with the purpose of minimising or reducing the risk to an acceptable level of a similar occurrence arising in the future. The safety investigation does not seek to ascribe responsibility to any person but to establish the contributory factors of the accident or incident based on the balance of probability.

A CAA safety investigation seeks to provide the Director of Civil Aviation with the information required to assess which, if any, risk-based regulatory intervention tools may be required to attain CAA safety objectives.

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