

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Zenair CH 250, G-BIRZ	
<b>No &amp; type of Engines:</b>	1 Lycoming O-290-G conversion piston engine	
<b>Year of Manufacture:</b>	1982	
<b>Date &amp; Time (UTC):</b>	9 September 2006 at 1340 hrs	
<b>Location:</b>	Glenforsa Airstrip, Isle of Mull, Argyll and Bute, Scotland	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Severe damage to airframe, engine propeller, port wing and landing gear	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	74 years	
<b>Commander's Flying Experience:</b>	810 hours (of which 169 were on type) Last 90 days - 7 hours Last 28 days - 4 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

## Synopsis

While attempting to take off from Runway 07 at Glenforsa Airstrip in southerly cross-wind conditions, the pilot lost control of the aircraft which collided with the airfield's perimeter fence before coming to rest on the beach. Both occupants vacated the aircraft uninjured.

It has one runway orientated 07/25 measuring 730 m long and 18 m wide. The runway has a transverse slope down towards the beach and it has windsocks on the northern side of each runway threshold adjacent to the perimeter fence.

## Airfield information

Glenforsa Airfield is an unlicensed grass airfield located on the north-eastern side of the Isle of Mull, on the coast, at the end of a valley that is orientated north-west/south-east. When the wind is from a southerly direction, downdraughts, gusts and funnel winds can be a feature at the airfield.

## History of the flight

The pilot reported that he had flown with a friend from Perth to Glenforsa for lunch, a journey he had flown on approximately 12 previous occasions in various aircraft types. Runway 07 was in use and its grass surface was dry. The flight was uneventful but at the time G-BIRZ landed, the surface wind observed by the airfield manager

was from 140° to 160° at 8 kt gusting to 12 kt. This wind was described by several pilots who were at Glenforsa at the time as “reasonably demanding.” The pilot added that his personal crosswind limit, for this aircraft type, was “12 to 15 kt”.

After a stay of approximately two hours the pilot prepared the aircraft for the return flight. He reported that there was no weather, unlimited visibility, no cloud and the surface wind was from 140° at 12 kt. He added that he was aware of the conditions likely to be experienced with this wind but while he prepared the aircraft, the wind conditions appeared very benign.

After engine start the pilot taxied the aircraft to the holding point for Runway 07 where he completed the engine and pre-takeoff checks; he then commenced the takeoff. The airfield manager reported the weather conditions were the same as when G-BIRZ landed.

The pilot stated that during the takeoff run, despite having applied full right rudder and into wind aileron, he had difficulty keeping the aircraft straight. After approximately 300 m ground run the aircraft started to veer uncontrollably to the left. As he approached the takeoff speed of 50 mph the aircraft continued to veer left and its right wing lifted “slightly”. The left wing then struck the perimeter fence before penetrating it. The aircraft then slid down onto the beach before coming to rest on the foreshore above the water line. The occupants vacated the aircraft uninjured through its sliding canopy.

The pilot added that the aircraft did not become airborne at any time. He elected to continue the takeoff because he was hoping that the aircraft would become airborne in time to clear the perimeter fence.

## **Eyewitnesses**

There were several eyewitnesses to the accident. They included a retired Chief Flying Instructor (CFI) from a UK flying club, the airfield manager and three private pilots. The CFI and the airfield manager were standing by a gate that leads from the car park to the aircraft parking area. This was opposite the point that G-BIRZ penetrated the fence and gave them an uninterrupted view of the takeoff.

They both stated that they saw the aircraft begin its takeoff run from the threshold of Runway 07. Almost immediately, it started to drift gradually towards the shore side of the runway and after approximately 300 m they saw it get airborne briefly in a very high nose-up attitude, achieving a height of approximately 10 to 15 ft agl. The aircraft then banked left, achieving nearly 90° angle of bank. The left wing struck the ground approximately 20 ft inside the perimeter fence and the aircraft bounced before it struck the perimeter fence. It then adopted a wings-level attitude just as they lost sight of it as it crashed onto the foreshore below the airstrip.

The other witnesses stated that they saw a similar series of events as previously described. One added that after the left wing hit the fence, the aircraft spun through 180° before it disappeared onto the beach travelling backwards.

On seeing the accident the airfield manager requested that the CFI drive his ‘off-road’ vehicle onto the beach to the accident site to offer assistance. This he did and when he arrived at the aircraft, he found that both occupants had vacated it and were visibly unharmed. At the same time, the airfield manager entered an adjacent building to telephone the local emergency services.

## Photographic evidence

The local police attended the scene of the accident. They photographed the aircraft and a witness mark on the grass just inside the perimeter fence. A photograph of the aircraft is shown at Figure 1 below.



**Figure 1**

G-BIRZ on the beach

In addition to damage attributed to the aircraft striking the fence and crashing onto the foreshore, there was severe damage to the left wing tip.

The witness mark on the grass showed no sign of any landing gear tracks which indicates that the aircraft had become airborne after it diverged off the grass strip. The impact mark on the ground was probably made by the left wing tip just before it struck the fence.

The damage to the aircraft was beyond economic repair.

## Analysis

The pilot's lack of directional control during the takeoff was probably attributable to the wind being close to, if not in excess of, his own crosswind limit. While the aircraft would normally weathercock into wind, engine slipstream effect and torque reaction would have been dominant and would have caused the aircraft to yaw to the left. Runway 07's downward slope towards the shore would have augmented this divergence.

Whilst the pilot does not think he got airborne, he might have instinctively pulled back on the control column in a bid to get airborne in time to clear the perimeter fence. The evidence indicates that the aircraft became airborne. The high nose-up attitude witnessed would have increased the aircraft's angle of attack and induced drag, thereby reducing its airspeed. The left wing drop is most likely to have been as a result of it stalling, leading to it striking the ground. Additionally, the strong crosswind or a gust from the right would have aggravated this wing drop. After the left wing struck the perimeter fence the aircraft is likely to have been rotated, as stated by one witness. Fortunately it remained upright and there was an exceptionally low tide on the day allowing the aircraft to slide to a halt on the beach above the water line.