

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Denney Kitfox Mk 2, G-KITY
<b>No &amp; Type of Engines:</b>	1 IAME KFM 112 piston engine
<b>Year of Manufacture:</b>	1998 (Serial no: PFA 172-11565)
<b>Date &amp; Time (UTC):</b>	19 November 2014 at 1409 hrs
<b>Location:</b>	Near Castle Bytham, Lincolnshire
<b>Type of Flight:</b>	Private
<b>Persons on Board:</b>	Crew - 1                      Passengers - None
<b>Injuries:</b>	Crew - 1 (Serious)      Passengers - N/A
<b>Nature of Damage:</b>	Damage to forward fuselage and engine bay, and to left wing
<b>Commander's Licence:</b>	National Private Pilot's Licence
<b>Commander's Age:</b>	73 years
<b>Commander's Flying Experience:</b>	682 hours (of which 329 were on type) Last 90 days - 4 hours Last 28 days - 3 hours
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot, recorded meteorological information and photographs of the accident site

## Synopsis

After touching down on a relatively short, wet grass runway, the pilot decided that he would be unable to stop the aircraft before encountering a boundary fence. He applied full power and selected a climbing attitude in order to fly a go-around. The aircraft cleared the fence but failed to climb, subsequently colliding with the roof of a bungalow, about 50 m beyond the fence. The pilot, who sustained a serious injury, believed that the aircraft had most probably been placed in a high drag situation which exceeded its performance capabilities.

## History of the flight

The pilot reported that he had been conducting a local flight from a private airfield where the aircraft was based. There were two grass runways at the airfield: 15/33, which was about 435 m long, and 08/26, which was about 285 m long. The airfield was situated in undulating countryside, at an elevation of 291 ft. There was a light and variable wind, with a visibility of 5,000 m and a cloud base between 1,000 ft and 1,500 ft. Recorded meteorological data for airports in the region indicated a widespread slack weather system, with surface winds reported from 110° to 130° at 4 to 8 kt. The runway surfaces on the day of the accident were described as soft and wet.

The pilot initially flew six visual circuits from Runway 15 without incident, flying touch-and-go landings. He then noted from the windsock that the wind had shifted to favour Runway 26, so positioned to make a final landing on that runway. The approach was normal, but the pilot sensed a higher than usual groundspeed just before landing and, after landing, recalled seeing the windsock indicating a slight tailwind on that runway. He commented that he had previously observed rapid changes in indicated wind direction when light wind conditions existed at the airfield.

The pilot reported that he seldom needed to apply wheel brakes during landing. However, although the initial part of the landing roll was uphill, the aircraft landed slightly further along the runway than the pilot had intended and with a slight tailwind, so he applied wheel brakes to reduce speed. The latter part of the runway sloped downwards and, as the aircraft crested the highest point, it became apparent that wheel braking was ineffective. Realising that a collision with a small boundary fence was imminent, the pilot applied full power in order to fly a go-around.

The pilot rotated the aircraft to a climbing attitude and recalled that it lifted off and cleared the approaching fence. Shortly afterwards, with full power applied and whilst still in a climbing attitude, the aircraft collided with the lower part of a bungalow roof, coming to an abrupt stop, still in a nose high attitude, with its forward fuselage resting on the roof and the rear fuselage supported by hedging and small trees.

The pilot remained conscious throughout the accident sequence and afterwards. The aircraft's attitude and position prevented him from vacating normally, so he remained in the aircraft until extricated by the emergency services. He was then flown by air ambulance to hospital, where it was established that he had suffered a serious back injury.

The distance from the estimated lift off point to the fence was about 60 m, with about a further 50 m to the bungalow. From photographs taken at the scene, the ground fell away at an increasing rate beyond the fence, such that the bungalow roof was not visible from the runway at the point the aircraft lifted off. Until the point of collision, the pilot believed that the aircraft had successfully transitioned to a climb, reinforced by the fact that it cleared the fence (the forward view being obscured by the aircraft structure). In fact, the aircraft had descended approximately 30 ft from the point where it lifted off, with a high nose attitude and full power applied throughout.

The pilot did not believe that he had lost control of the aircraft, nor did he suspect a failure or defect with the aircraft's structure or its systems, noting that damage to the propeller was consistent with a high power setting. Instead, he thought it most likely that the aircraft had lifted off prematurely at a low speed and he had selected a slightly higher pitch attitude than was normal, resulting in a high drag condition which prevented the aircraft climbing or accelerating.