
ACCIDENT

Aircraft Type and Registration:	Piper PA-38-112 Tomahawk, G-OLFC	
No & Type of Engines:	1 Lycoming O-235-L2C piston engine	
Year of Manufacture:	1979	
Date & Time (UTC):	24 June 2007 at 1715 hrs	
Location:	Ashcroft, a private airstrip approximately 5 miles east of Oulton Park, Cheshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Engine shock-loaded and displaced from its mountings. Moderate damage to rear fuselage	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	62 years	
Commander's Flying Experience:	368 hours (of which 50 were on type) Last 90 days - 8 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and additional AAIB enquiries	

Synopsis

During takeoff from a grass strip the tail of the aircraft struck a fence resulting in the aircraft landing heavily in a field and coming to rest inverted.

History of the flight

The pilot had flown into Ashcroft on the morning of the accident flight. He subsequently walked 50 m of Runway 27 and assessed the surface as dry and suitable for departure. At approximately 1700 hrs the pilot started G-OLFC, taxied to the undershoot of Runway 27 and carried out the power checks. He estimated the surface wind to be 300°/5-10 kt. Acceleration during the takeoff roll seemed normal with one stage of flap selected. In

accordance with the Pilot's Operating Handbook soft field takeoff technique, the pilot rotated at minimum speed and then held the aircraft in ground effect to achieve a climb speed of 61 kt. Approaching the four foot high fence at the end of the runway, the pilot rotated further to the climb attitude. The rear fuselage underside struck the fence, pitching G-OLFC nose-down. This caused the nosewheel to strike the ground and collapse. The aircraft subsequently pitched down and came to rest inverted facing back towards the airfield. The pilot, who was wearing a full harness, switched off the fuel and battery master switch before being dragged from the wreckage by the airfield owner.

Eyewitness Report

An eyewitness observed the takeoff roll. He reported that the wind was light and variable and that during the takeoff run the acceleration appeared slow. He also reported that the aircraft adopted a high nose-up attitude shortly before the accident.

Performance

The pilot had carried out a calculation of the aircraft's takeoff performance incorporating both a factor for grass and the CAA recommended safety factor of 1.33. The pilot calculated that with a 10 kt headwind and at maximum takeoff weight, a distance of 537 m was required to clear a 50 ft obstacle. He estimated that his actual takeoff weight was 91 lbs less than the maximum allowed. CAA Change Sheet number 4 issue 1 to the Piper PA-38-112 Pilot's Operating Handbook 'Performance Writedown', states that:

'Take-off field lengths – Add 5%'.

This was not included in the pilot's calculation.

Runway

Runway 27 is declared in various flight guides as 550 m long. This length is based on information provided to the current owner by previous owners. The current owner has informed the AAIB of his intention to re-measure the runway to ensure the accuracy of the distance declared.

Pilot's Assessment

The pilot considered that several factors may have caused the accident. He suggests that the performance of G-OLFC was below that calculated. This may have been due to a lower headwind factor or possibly a dragging brake. He also suggested that the strip may be shorter than allowed for in his calculations. However, the pilot considered it likely that he was concentrating on the approaching fence and misjudged the pull up from level acceleration to climb away.