

ACCIDENT

Aircraft Type and Registration:	DH82A Tiger Moth, G-ANJA	
No & Type of Engines:	1 De Havilland Gipsy Major I piston engine	
Year of Manufacture:	1939	
Date & Time (UTC):	23 May 2008 at 1825 hrs	
Location:	5 miles west of Lashenden, Kent	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Undercarriage collapsed, damage to three main wings, nose / engine cowlings and a number of broken longerons in fuselage	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	50 years	
Commander's Flying Experience:	153 hours (of which 22 were on type) Last 90 days - 11 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During an aerobatic manoeuvre the engine stopped. While conducted a forced landing the pilot changed his selection of field twice and was subsequently unable to make his third choice of field. The pilot deliberately stalled the aircraft onto the ground in a field approximately 100 m short of his selected field. The landing gear collapsed and the aircraft was substantially damaged.

History of the flight

The pilot, whose currency for self-fly hire from the flying club had lapsed, successfully completed a dual check with an instructor at Headcorn Aerodrome. The weather conditions were described as good, with a light

easterly wind. After the check flight, the instructor left the aircraft and the pilot went for a short local solo flight. The aircraft climbed to 3,300 ft and was approximately 1 mile to the west of Staplehurst when the pilot decided to fly an aileron roll. After a clearing turn the pilot entered a shallow dive, which increased the airspeed to 110 kt. He then pitched the aircraft up to between 15° and 20° and commenced a roll to the right. As the aircraft passed through the inverted position, the engine stopped suddenly. The aircraft lost speed and fell out of the manoeuvre with the propeller stopped.

The pilot recovered the aircraft to level flight. He considered that he had insufficient height to attempt

to restart the engine and selected a field for a forced landing; he transmitted a 'Fan stop' call on the Headcorn air traffic frequency. As the aircraft neared the field the pilot could see that it contained tall crops and was therefore unsuitable, so he turned the aircraft towards a nearby playing field. He then noticed children in the field so flew towards a nearby golf course. It then became clear to the pilot that he had insufficient height to reach the golf course so he transmitted a 'MAYDAY' call on the Headcorn frequency. At a height of around 50 ft, whilst about 100 yards before the golf course, the pilot decided to stall the aircraft into the preceding field. The landing gear collapsed and the aircraft sustained substantial damage. The pilot, who was wearing a 4-point harness, was uninjured and having made the aircraft safe, he vacated it normally.

Additional information

The DH82A Tiger Moth has a single fuel tank situated above the fuselage between the upper wings. Fuel is gravity fed to a conventional carburettor. If the aircraft is subjected to negative 'g' the fuel flow from the fuel tank to the carburettor stops, and the fuel in the float chamber of the carburettor transfers to the top of the chamber, leaving the main jet sucking air instead of fuel. The net effect is that the engine stops.

Rolling the Tiger Moth is a manoeuvre which requires advanced aerobatic skills. The aircraft only has ailerons on the lower wing, and when the aircraft is inverted there can be some shielding of the ailerons by the upper wing and the rate of roll is therefore slow. Furthermore, to successfully complete this manoeuvre requires precise rudder control inputs by the pilot.

Because of the difficulty of conducting rolling manoeuvres in the Tiger Moth, together with the propensity of the engine to stop when subjected to negative 'g', the flying club only authorises its most experienced pilots to perform rolling manoeuvres in this aircraft. Moreover, these rolling manoeuvres are performed overhead the airfield in case the pilot is unable to restart the engine.

The pilot involved in this accident was cleared by the club for aerobatics in its more modern aerobatic aircraft but he was not authorised to conduct aerobatics in the Tiger Moth. He stated that he had previously conducted rolling manoeuvres with a check pilot in the Tiger Moth and at the time of the accident he was not aware of any club restriction on flying aerobatics in the Tiger Moth.