

DH60G Gipsy Moth, G-AALY, 18 August 2002

AAIB Bulletin No: 11/2002	Ref: EW/G2002/08/16	Category: 1.3
Aircraft Type and Registration:	DH60G Gipsy Moth, G-AALY	
No & Type of Engines:	1 De Havilland Gipsy II S piston engine	
Year of Manufacture:	1929	
Date & Time (UTC):	18 August 2002 at 1730 hrs	
Location:	Woburn Abbey, Bedfordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Damage resulting from water immersion	
Commander's Licence:	Airline Transport Pilots Licence	
Commander's Age:	41 years	
Commander's Flying Experience:	10,660 hours (of which 34 were on type)	
	Last 90 days - 190 hours	
	Last 28 days - 48 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of the flight

The accident happened during the DeHavilland Moth Club rally weekend at Woburn Abbey. A private strip, designated Runway 01/19, had been provided in the grounds for their exclusive use. This had a grass surface, some 550 metres in length, and there were lakes located off the end of Runway 19 and a public road across the end of Runway 01.

The intended flight was to depart from Woburn, to a local airstrip for an overnight stop, in formation with a Tiger Moth. This aircraft departed first on Runway 19, with no problems, and G-AALY then followed. During the take off roll the aircraft bounced as it passed over a mound across the runway about halfway along its length. It then became airborne, with a high angle of attack and, after a short distance, descended back onto the runway. As the runway appeared to be too uneven for the aircraft to accelerate the pilot elected to steer to the right in the hope that the smoother

ground would aid acceleration. By now, the distance travelled meant that there was insufficient distance remaining to abort the takeoff and, realising this, the pilot aimed for an area that was possibly suitable for a safe landing beyond one of the lakes. Full power was maintained with the hope that the aircraft would fly in 'ground effect' over the lake, as another aircraft was seen to do a short time before. As the aircraft passed over the near edge of the lake, the pilot realised that the aircraft would not be able to climb enough to clear a four feet high bank on the far side. When approaching the middle of the lake the aircraft stalled, due to a high angle of attack and, as it nosed over, the right lower wing touched the water causing it to slew 180° to the right. The aircraft came to rest in a nose down attitude in about three feet of water and the pilot and passenger, who were uninjured, escaped from the aircraft and were able to wade to the bank. The weather at the time was a light and variable wind, good visibility and a temperature of between 23°C to 25°C.

Discussion

The pilot, in a very full, frank and concise report, stated that the take off weight of the aircraft was 748 kg (the maximum take off weight is 839 kg) and that the centre of gravity was 13.13 inches aft of the datum, ie, within the limits of 10 to 16 inches aft of datum. He assessed that, following the first bounce, if he had pushed the stick forward he could have gained enough airspeed to fly or, if he had closed the throttle and abandoned the takeoff, he would have had enough distance to stop safely. In addition, he indicated several factors which may have affected his judgement, such as being dehydrated due to the constant pressures from an event such as the Moth rally, a hurried pre-departure preparation, 'go mindedness' leading to a desire to want to continue the takeoff in order to fly in formation with the Tiger Moth, the warm temperatures reducing performance, a heavy load and the fact that the aircraft had a cruise pitch propeller fitted.

Summary

The bounce, which was both unexpected and outside the experience of the pilot, was significant in the sequence of events that lead to the accident. The condition of the runway had caused some concern amongst the pilots during the two-day event. The pilot, in his assessment, was not prepared for the bounce or the resulting short flight. In addition he noticed that following the bounce the stick was further aft than normal and felt he may have been reluctant to put the stick forward for fear of bouncing again with such a relatively heavy aircraft. He was accustomed to short field operations due to his normal field being both short and narrow and, as the aircraft was fitted with a more powerful engine than the standard Gipsy Moth his expectation had been for the aircraft to achieve more than adequate acceleration.