

ACCIDENT

Aircraft Type and Registration:	Piper PA-28-181 Archer II G-BNVE	
No & Type of Engines:	1 Lycoming O-360-A4M piston engine	
Year of Manufacture:	1984	
Date & Time (UTC):	12 July 2006 at 1800 hrs	
Location:	Maritime and Coastguard Agency (MCA) Daedalus, Lee-on-Solent, Hampshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Impact damage to left wing and fuselage	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	70 years	
Commander's Flying Experience:	528 hours (of which 351 were on type) Last 90 days - 18 hours Last 28 days - 6 hours	
Information Source:	AAIB Field Investigation	

Synopsis

Construction work at the airfield formerly known as HMS Daedalus and Lee-on-Solent, now known as MCA Daedalus, resulted in the erection of a perimeter fence incorporating various gateways for use by aircraft and vehicles. A pilot, unable to find a new grass taxiway, continued to taxi on a metalled perimeter taxiway until coming to one of the gateways, which was only just wide enough for the aircraft. In attempting to pass through the gateway, the aircraft's left wing struck the gate. Although information was available to the pilot about the gate and the new grass taxiway, the entrance to the taxiway was not obvious. Moreover, there was no readily available diagrammatic plan of the airfield illustrating its layout and the positions of obstructions.

History of the flight

The pilot, who had flown from MCA Daedalus in the past, hired an aircraft from one of the clubs based at the airfield for a private flight to Guernsey. Later that day the pilot and his two passengers returned from Guernsey and landed at MCA Daedalus on Runway 23. The pilot taxied the aircraft, which had a wingspan of 11.05 metres, to the end of the runway, vacating to the right onto the airfield's perimeter taxiway. The pilot taxied along the taxiway to the north, looking for a grass taxiway he knew existed but, unable to find it, he continued on the perimeter taxiway. Shortly after passing a hangar used by the SAR helicopter, the pilot became aware of an open set of metal gates with the gateway set at an angle across the taxiway. The pilot attempted to taxi through the gateway but the aircraft's

left wing struck the gate to the left of the taxiway, slewing the aircraft around. The pilot stopped the aircraft and shut it down before he and the passengers disembarked.

Airfield details

Part of the ex-government airfield is now owned by the Maritime Coastguard Agency (MCA). It is operated as an unlicensed airfield, primarily for use by the Coastguard Search And Rescue (SAR) helicopter and the Hampshire Police Air Support Unit (PASU), who operate a fixed wing aircraft. There were also two civilian flying training organisations, a gliding club, some aircraft maintenance organisations, and a number of private aircraft based at the airfield. Normally it is only available for use by aircraft based there or visiting for maintenance.

Other parts of the old airfield are being redeveloped as an industrial estate and a fence has been constructed protecting the area still used as an airfield. The position of this fence had not been finalised due to the progressive nature of the construction work. Completion of the fence was anticipated early in 2007.

Because the new industrial estate still had some aircraft related activity, a means for aircraft to cross from the industrial estate to the airfield had been devised. At the time of the accident the fence crossed taxiways at various points and gateways had been installed to allow access to the operational part of the airfield. The purpose of one gateway was to allow access to the airfield by aircraft that were, at the time, kept on an area outside the perimeter fence. A mown grass taxiway was created to allow aircraft to bypass a gateway on the eastern side of the airfield in the area of the Coastguard hangar. The taxiway was unmarked except where it crossed a road approximately half way along its length. The mown area had been extended in the vicinity of the Coastguard hangar to facilitate helicopter operations.

Day to day operation of the airfield is the responsibility of the PASU which has provided organisations using it with information about the fence and gateways. This information included photographs of the airfield with the positions superimposed. An airfield description document, (locally called the airfield manual), was also amended early in 2006 with relevant written information, although the plan of the airfield was not updated to show positions of the fence, gates or grass taxiway. The amendment was dated April 2006 and the document stated that the gate, subsequently struck by the aircraft, was '*only 12 metres wide*'. It also stated that it is '*the pilot's responsibility to ensure that his/her aircraft can safely negotiate this gate*'.

The Airfield Manager reported that the gate had also been hit on two occasions by another pilot when trying to pass through it in the opposite direction to this event, scraping the wing tip on each occasion. As a result of this accident and these other incidents, the airfield manual has been further amended to prohibit aircraft from using the gateway involved. This amendment is also dated April 2006, although it was published after the previous amendment bearing the same date.

The airfield description document states that visiting aircraft are accepted only when specifically authorised by the Airfield Manager (the civilian pilot in the PASU) or the Airfield Duty Officer (also a PASU staffed position) and only when pilots have been briefed by their sponsoring organisation. However, the AAIB investigator was unable to obtain a plan of the airfield illustrating the position of the fence, gateways or grass taxiway from the MCA, the PASU or the organisation from which the aircraft had been hired. The only plan that could be obtained, on the advice of the PASU, was from the local council's planning department showing the position of the fence as part of a planning application.

Safety standards at unlicensed airfields

The Civil Aviation Authority has issued guidance to owners and operators of unlicensed airfields in CAP 428 'Safety Standards at Unlicensed Airfields.' Being unlicensed, MCA Daedalus does not feature in the UK Aeronautical Publication but Chapter 3 of CAP 428 invites unlicensed aerodrome owners to consider publishing aerodrome details in one of several commercially produced airfield guides. Moreover, paragraph 5.4 of Chapter 4 states:

If the aerodrome does not feature in any aeronautical publications, a procedure should be developed whereby visiting pilots are warned of hazards prior to arrival'.

The Airfield Manager stated that there was no intention of publishing details of the airfield in any guide until work on the airfield is complete in 2008. To do so any earlier would result in published information not necessarily reflecting the true state of the airfield. Instead, visiting pilots are verbally briefed by the duty officer as part of the process for obtaining the required prior permission to land before leaving their aerodrome of departure.

Analysis

Information was available to the accident pilot describing the position of the gate and the limited width of the gateway. There was also a picture showing the position of the gate and the grass taxiway in the briefing area of the organisation from which the aircraft was hired.

The pilot was aware of the existence of the grass taxiway but it is likely that he failed to find it due to a lack of any obvious marking at its entrance. It is also possible that the entrance was disguised by the widely mown area at its junction with the perimeter taxiway, next to

the Coastguard hangar. Having missed the taxiway, the pilot continued towards the gate but misjudged the position of the aircraft in relation to the gateway, partly due to the staggered nature of the gate. The wingspan of the aircraft was only 0.95 of a metre narrower than the gateway so any small error in the positioning of the aircraft would result in a collision. The nature of the aircraft damage also suggests the aircraft had not been slowed to a speed commensurate with the manoeuvre being attempted.

Although the use of MCA Daedalus is largely restricted to locally based aircraft, there is significant flying activity at the airfield. There are also likely to be a small number of visitors to the Daedalus-based maintenance organisations who are not familiar with the airfield layout.

Safety action

The prohibition placed on aircraft using the gate involved in the accident places an enhanced requirement on the airport management to ensure that the grass taxiway is clearly marked for those now required to use it. This requirement was suggested to the PASU whose representative stated that it was not possible to mark the taxiway due to the problems of helicopter operations in the vicinity. Nevertheless, if the grass taxiway is an important part of the manoeuvring area of the airfield, an acceptable means of clearly marking its presence should be provided in order to minimise ground collisions with obstacles.

The Airfield Manager considered that, due to the constantly changing nature of the work, it was not practical to publish a plan. This was because anything that was published was likely to remain valid for only a few days at most. Instead, the frequent changes to the airfield layout were communicated to the relevant parties

by e-mail. The date of the e-mail served as the date of the amendment. Finally, it was intended to produce a final airfield document once the construction work was completed. In view of these issues the following safety recommendation was made:

Safety Recommendation 2007-035

The Maritime Coastguard Agency should require its airfield operator at MCA Daedalus to take the following actions:

- a. Apply appropriate markings to the grass taxiway in the vicinity of the Coastguard hangar to delineate its boundaries for the safe manoeuvring of aircraft.
- b. On completion of the fence construction work, publish an up-to-date plan of the airfield that includes the position of the new perimeter fence, gateways and grass taxiways.