

ACCIDENT

Aircraft Type and Registration:	Grob G115D 2, G-BVHD	
No & Type of Engines:	1 Lycoming AEIO-320-D1B piston engine	
Year of Manufacture:	1994 (Serial no: 82006)	
Date & Time (UTC):	3 May 2012 at 1423 hrs	
Location:	Dundee Airport, Scotland	
Type of Flight:	Training	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to underside of the right wing and to two airport taxiway designator boards	
Commander's Licence:	Student pilot	
Commander's Age:	18 years	
Commander's Flying Experience:	11 hours (of which all were on type) Last 90 days - 11 hours Last 28 days - 11 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot, local investigation reports, ATC occurrence report and recorded radio telephony data	

Synopsis

The aircraft failed to negotiate a runway exit and ran on to the adjacent grass surface before colliding with two taxiway designator boards. The cadet pilot was on her first solo flight and had arrived at the exit too fast after landing, having been advised by ATC to keep her speed up on the runway to accommodate landing traffic behind.

History of the flight

The cadet pilot was undergoing flying instruction as part of the Air Cadet Pilot Scheme and was on day nine of a twelve-day course. She had undergone 11 hours of dual instruction, including a successful

pre-solo check flight immediately prior to her first solo flight.

After the check flight, the aircraft was taxied to the main apron where the cadet's instructor briefed her to fly one solo circuit before landing and taxiing back to the same position. The instructor then made his way to the ATC tower to supervise the flight from there.

The cadet pilot taxied the aircraft for departure from Runway 09, using a dedicated local call-sign which indicated her status as a first solo flight. The meteorological report at 1420 hrs gave a surface wind

from 110° at 10 kt, good visibility and small amounts of cloud at 1,300 ft. Planned circuit height was 1,000 ft.

The cadet pilot completed her solo circuit, which appeared satisfactory throughout. Two other aircraft were in the circuit, a PA28 from the same training organisation and a Dornier Do328 conducting crew training. As the cadet pilot slowed the aircraft after landing, the ATC controller advised her to “KEEP YOUR SPEED UP” and instructed her to vacate the runway at Taxiway ‘A’, with two aircraft landing behind. She, therefore, increased power and taxi speed to expedite vacating the runway. Taxiway ‘A’ was at the end of the 1,400 m runway and required a 90° left turn. There were two high speed turnoffs, but one was occupied by another aircraft and the controller was intending to vacate the Dornier at the other. As her aircraft approached the Taxiway ‘A’ exit, the cadet pilot heard the controller clear an aircraft behind to “land after” the Grob. At this stage, the cadet pilot realised she was going too fast to make the turn safely, despite full steering and differential braking. The aircraft left the paved surface at its junction between the taxiway and the runway, and continued across the adjacent grass surface. The aircraft’s right wing struck two taxiway designation boards before the cadet pilot was able to bring it to a stop.

The cadet pilot reported that she felt she had been placed under pressure by the ATC instruction to keep the speed up, which resulted in her arriving at the exit point too fast and with some power applied. The instruction to the following aircraft to land further increased her anxiety and the belief that she needed to vacate the runway without delay.

ATC report

The ATC controller submitted an occurrence report which stated that the cadet pilot had landed safely and was instructed to exit the runway at Taxiway ‘A’. The aircraft was seen to continue east of ‘A’ and onto the grass, striking a taxiway light and two designator boards before coming to a stop on an adjacent taxiway. An Aircraft Ground Incident was declared and the airport’s Rescue and Fire Fighting Services deployed immediately.

Published guidance

The Manual of Air Traffic Services Part 1 (MATS Part1), produced by the Civil Aviation Authority, contains procedures, instructions and information which are intended to form the basis of Air Traffic Services (ATS) within the UK. Appendix E, Section 4 deals with communications techniques and standard phraseology. It includes paragraphs relating to radio dialogue with student pilots, a situation in which the Manual advises ATS staff to ‘*exercise caution*’.

The manual includes the following text:

‘ATS personnel can expect student pilots to demonstrate the basic skills necessary to fly their aircraft under normal circumstances, including standard circuit procedures and limited cross-country flying. However, unexpected or non-standard instructions may confuse a student pilot and these may require amendment or clarification.

Regardless of the student’s personal confidence, ATS personnel should be aware that initial solo flights can represent a time of increased nervousness and pressure for the student. The requirements made of student pilots by ATS personnel should reflect this very limited experience.’

AAIB comment

Although the cadet pilot was ultimately responsible for the safe operation of her aircraft, she could not, given her extremely limited experience and the unique circumstances of her first solo flight, be relied upon to deal with an unexpected instruction while landing in the same way as a more experienced pilot. The controller's instructions to the pilot did not reflect the guidance given in MATS Part 1 in that they were both unexpected and non-standard. Whilst it is acknowledged that the controller acted in the best interests of all circuit users to facilitate an orderly flow of traffic, he did have other options which may have been more appropriate, such as to instruct the following traffic to go around.

Even highly experienced professional pilots will treat a 'keep your speed up' instruction with caution, as it is much more difficult to judge ground speed on a wide

runway than it is on a narrow taxiway, and excess speed may only become apparent when a pilot's attention is directed to the runway edge as the expected exit approaches. It may well be that the cadet pilot was subject to this effect and that, when her error became apparent, she did not have the experience or depth of training to make a safe recovery.

Safety action

The Airport Authority, Dundee ATC and the flying training organisation concerned agreed to undertake a joint review of early solo flying at Dundee, with a view to establishing clear guidelines for supervising instructors and codes of practice for controllers.