

ACCIDENT

Aircraft Type and Registration:	Gulfstream AA-5B, G-BTII	
No & Type of Engines:	1 Lycoming O-360-A4K piston engine	
Year of Manufacture:	1979	
Date & Time (UTC):	14 January 2007 at 0945 hrs	
Location:	Biggin Hill Airfield, Kent	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to both wings of G-BTII and to left wing of an adjacent aircraft	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	38 years	
Commander's Flying Experience:	108 hours (of which 7 were on type) Last 90 days - 8 hours Last 28 days - 0 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The pilot started the engine and the aircraft began to move forward. Despite the pilot repeatedly operating the toe brakes, the aircraft swung round, resulting in its left wing contacting the left wing of an adjacent aircraft, and its right wing striking the wall of a shed.

Sequence of events

When the pilot boarded the aircraft, it was parked immediately to the right of a Piper PA-28. A small concrete shed was located behind the aircraft, whilst in front, across the apron, were two aircraft hangars.

The pilot completed the internal checks, which included setting the parking brake to ON, before starting

the engine. Whilst he did so, he kept his feet on the toe brakes and, after the engine started, he monitored the instruments for several seconds. However, on looking up, he noted that the aircraft was moving and heading towards one of the hangars. He attempted to halt the aircraft by repeatedly applying the brakes, but this only resulted in a 90° turn to the left. Whilst this avoided a collision with the hangar, the aircraft was now heading towards the perimeter fence. The pilot, by now very alarmed, quickly glanced inside the cockpit to locate the throttle and mixture controls, whilst still attempting to brake. The aircraft continued to turn to the left so that it was heading towards the parked PA-28 aircraft, and as it did so, he pulled both control

levers fully back, which eventually stopped the engine. Realising that a collision was inevitable, he decided to refrain from additional braking, as any further turn to the left would have resulted in striking the other aircraft with the nose and propeller of his own aircraft. The collision occurred with the left wing of G-BTII sliding under the left wing of the parked aircraft, and the right wing striking the wall of the shed. The pilot vacated the aircraft uninjured.

Examination of the aircraft

Following the accident, one of the co-owners, together with the pilot, took the aircraft onto the apron in order to test the brakes. It was found that the right wheel brake was marginally less effective than the left, although the aircraft could be steered and braked normally at fast and slow speeds. The pilot commented that the aircraft had not flown for a month and that, as it had been parked outside in wet weather, it was possible that the right brake calliper piston had temporarily stuck.

Other information

The pilot supplied video footage from one of the airfield CCTV security cameras that had captured the incident. This took the form of time lapse photographs, taken approximately two seconds apart. The quality was such that it was not possible to discern the point at which the propeller started to rotate during the engine start. However, a sudden, nose-down change in the aircraft attitude was apparent, consistent with the engine starting

up and running at a relatively high speed. Two seconds later, the first forward movement could be seen, albeit only a matter of inches. After a further ten seconds, the aircraft had made its 90° turn towards the perimeter fence and the collision with the adjacent aircraft occurred after an additional three to four seconds. Thus the total time, from the first observable movement to the collision took approximately 13-14 seconds.

Pilot's comments

In a candid statement, the pilot noted that the engine was almost certainly running faster than the 1,200 rpm at which it should be set following start. However he did not have a chance to reset the power due to his preoccupation with attempting to avoid a collision. He also commented that when he was pushing on the brake pedals, in his panic, he may have inadvertently applied a combination of brake and rudder. Furthermore, as the parking brake was still set in the ON position, the design of the hydraulic brake system is such that this should have locked out the toe brakes. Nevertheless, the fact that sharp left turns were made during the sequence suggests that the park brake was not fully on, with some left brake pressure being generated by the toe brakes.

Finally, the pilot commented that although, with hindsight, he ought to have cut the engine power a lot earlier, he was reacting to what he perceived to be the immediate priorities of avoiding the hangar and the fence.