

ACCIDENT

Aircraft Type and Registration:	Stewart S-51D Mustang, G-CGOI	
No & Type of Engines:	1 Chevrolet V8 'Big Block' piston engine	
Year of Manufacture:	2005 (Serial no: 144)	
Date & Time (UTC):	2 August 2015 at 1515 hrs	
Location:	Benwick, Cambridgeshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Extensive	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	72 years	
Commander's Flying Experience:	1,247 hours (hours on type not declared) Last 90 days - 6 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot and report submitted by witness/aircraft engineer	

Synopsis

The pilot lost directional control of the aircraft shortly after commencing the takeoff run. The aircraft left the side of the runway and became airborne for a short while before rolling to the left. The left wing tip struck the ground and the aircraft yawed left, coming to rest extensively damaged but in an upright attitude. The pilot sustained minor injuries.

History of the flight

The pilot, who was the owner of the aircraft, reported that he was attempting a takeoff from a private grass runway when the accident occurred. The weather was fine, with a light south-westerly wind. The pilot completed his pre-flight checks and lined up for takeoff in a southerly direction. The grass runway was described as being firm, flat and dry, about 800 m long by 30 m wide. The fields to each side of the runway were laid to potato crops, standing about 1 m high.

After the aircraft had travelled about 140 m on its takeoff roll, the pilot realised it was drifting to the left so retarded the throttle to idle and commenced braking. As the aircraft slowed, he applied right rudder to correct the track but the aircraft failed to respond. It struck an earth bank at the left side of the runway and became airborne. It rolled to the left and the left wing struck the ground, causing the aircraft to rotate such that it came to rest in an upright attitude but facing north. In the accident sequence, the engine detached

from the firewall and passed down the right side of the aircraft, coming to rest between the wing trailing edge and the horizontal tailplane.

Aircraft information

The aircraft was an all-metal 70% scale replica of the North American P51 Mustang. It was powered by a 500 horsepower (hp) Chevrolet engine and was fitted with a large four-bladed metal variable pitch propeller. It was fitted with electric flaps and trim and a hydraulically powered retractable undercarriage.

The aircraft was imported from the USA by the pilot before being reassembled. A Light Aircraft Association (LAA) Inspector was designated to be the engineer responsible for overseeing the reassembly, and for detailed inspections and flight release. The Permit to Fly was issued in October 2014.

Witness information

The accident was witnessed by the same LAA Inspector who had overseen the application process for the aircraft's Permit to Fly. He had subsequently also had responsibility for supervising maintenance work done by the pilot and for 'signing off' the work. He understood that the aircraft had been flown on several occasions in 2015 but only once before by the pilot owner, that being in the Spring. He understood that, prior to the accident, the aircraft had been flight tested by a pilot experienced on similar complex aircraft. The witness believed that the aircraft was fit for flight and that no unauthorised work had been carried out or faults reported which might have rendered it unfit.

The witness described how, prior to the takeoff attempt, the pilot had reported difficulties turning the aircraft to the right during taxi. Together, they inspected the aircraft but could not identify a reason for the steering issue, which was thought might have been due to surface conditions. The pilot carried out a taxi test and the problem did not seem to occur again.

There was a further delay before takeoff while issues with the communications and navigation equipment were resolved. After this the pilot taxied the aircraft for takeoff, having said that he intended to fly direct to Little Gransden Airfield, 20 nm to the south. The witness saw the aircraft start its takeoff run, but as the tail came up the aircraft swung in yaw and the throttle was cut. The aircraft came to a stop before turning and taxiing back to the start of the runway.

A further takeoff attempt was made. There was an audible rapid application of power and the tail appeared to come up almost immediately after acceleration had begun. The aircraft swung again to the left and, although the swing was stopped, it left the aircraft tracking about 30° to the runway centreline and directly towards the witness's position. The aircraft was then seen to climb at a steep angle (estimated at about 45°) until the nose of the aircraft was at about 30 or 40 ft, at which point it appeared to stall and roll, followed by the left wing striking the ground.

The witness ran to the crash site and alerted the emergency services. He was joined at the site soon after by nearby farm workers, and subsequently by an air ambulance and the

other emergency services. The pilot, who was injured but remained conscious, was taken to hospital by the air ambulance.

The witness provided observations he had made of the ground marks left on the runway after the accident. He stated that the tyre marks for the aircraft, which was considerably heavier than other types using the airfield that day, could be identified for both takeoff attempts. The tracks believed to have been associated with the accident were seen to curve toward the left side of the runway but stopped before the edge. The witness concluded from this that the aircraft had either left the ground at this point or was producing sufficient lift to avoid leaving tracks. The first sign of impact in the crops was some 75 m from the last visible tyre tracks.