

Aircraft type and registration:	Beech Musketeer – 23 (Light single engine fixed wing aircraft) G-AWIK	
Year of manufacture:	1964	
Date and time (GMT):	3 April 1983 at 1455 hrs	
Location:	4 nm North of Ely, Cambridgeshire	
Type of flight:	Private	
Persons on board:	Crew – 1	Passengers – 2
Injuries:	Crew – 1 (fatal)	Passengers – 2 (fatal)
Nature of damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence with IMC rating	
Commander's Age:	49 years	
Commander's total flying experience:	385 hours (of which 241 were on type)	

The aircraft had already flown two uneventful sorties before it took off from Cambridge with a pilot and two passengers for a local area flight. The weather was suitable for the flight with the main cloud base between 2000 ft and 3000 ft consisting mainly of broken cumulus but with occasional cumulo nimbus with tops up to 11,000 ft. Visibility was 30 km or more but much reduced beneath the shower cloud. The Beech Musketeer was seen to take-off quite normally from Cambridge at 1430 hrs and it cleared the circuit to the north. The aircraft was seen by several witnesses manoeuvring gently in the general area of Ely at about 2000 ft. When north of Ely the aircraft was observed entering an isolated but active shower cloud which was producing hail on the surface. Witnesses had their attention drawn back to the aircraft by the sound of a high revving engine coming from the general area of the cloud. They then saw the Musketeer emerge from the base of the cloud in a steep spiral descent with much of its starboard wing missing. The aircraft crashed into a field still at a steep angle and with the engine at high RPM. There was no fire. After a short delay large pieces of aircraft structure were seen to be falling from the cloud and they came to rest in several fields to the south-east of the main wreckage.

Examination of the wreckage on site revealed that the aircraft had struck the ground nose down at a steep angle, embedding the engine deep into the soil, and severely disrupting the fuselage. The port wing and starboard inboard wing were still attached and both showed evidence of severe longitudinal crushing which was consistent with the steep impact. All control surfaces were found attached to the main wreckage with the exception of the starboard aileron, which was found some 400 metres short of the impact point. The wreckage was removed to the AIB Facility at Farnborough where a more detailed examination was carried out. The starboard mainspar had fractured in three places with the fracture nearest to the root attributable to the ground impact. All fractures showed no signs of having originated from fatigue or corrosion and they were consistent with overstressing of the airframe. From examination of the wreckage and the wreckage plot the most likely sequence of break-up would seem to be failure of the spar in an upward and rearwards direction immediately outboard of the mainwheel attachment point. The failed wing still attached by the aileron cables struck the starboard stabilator, fin and starboard fuselage causing severe damage to both the airframe and failed wing section. At some stage both aileron cables failed allowing the failed wing section to separate completely. It is probable that this relatively light structure was lifted by vertical activity within the cloud before falling to the ground, hence the interval observed by the witnesses. All flying control cables were examined and no evidence of a pre-impact failure, disconnection or restriction, except in the aileron circuit could be found. Examination of the propeller showed that there was considerable power being applied by the engine at impact. The vacuum system that powers the pilot's artificial horizon and directional gyro was working satisfactorily at impact.

The radar film recording from the nearest area radar facility was examined and a contact was seen departing the Cambridge area at 1430 hrs. The contact moved north avoiding the Honington Control Zone and began manoeuvring in the area to the north of Ely. The contact was lost when it entered an area of weather return; it was not regained.

The reason the aircraft entered an active shower cloud cannot be determined, but witnesses report that the area around the cloud was clear. No pre-existing defect in either the airframe, engine or aircraft systems could be found.