Aviation Safety Investigation Report 199702797

Auster Aircraft Ltd IIIF

31 August 1997

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: Location: State: Date: Time: Highest Injury Level: Injuries:	199702797Occurrence'Kalimna Park' GaloreInv CategoNSWInv CategoSunday 31 August 1997Time Zone1510 hoursTime ZoneFatalInterformed and a statemed an		Occurrence Inv Categor Time Zone	e Type: Accident ry: 4 EST	
	Crew Ground Passenger Total	Fatal 1 0 0 1	Serious 0 0 0 0	Minor 0 0 0 0	None 0 0 0 0
Aircraft Manufacture Aircraft Model: Aircraft Registration: Type of Operation: Damage to Aircraft: Departure Point: Departure Time: Destination:	r: Auster Aircraf IIIF VH-MBA Non-commerc: Destroyed 'Kalimna Park' 1500 EST Temora NSW	t Ltd ial Plea Galore	asure/Travel e NSW	Serial Nu	mber: 7796

Crew Details:

	Hours on				
Role	Class of Licence	Type Hours Total			
Pilot-In-Command	Private	1500			

Approved for Release: Wednesday, March 4, 1998

FACTUAL INFORMATION

Sequence of events

The pilot was attending a 'fly in' on a rural property. He stated that his intention was to carry out a short local flight before departing to return to Temora, and took off obliquely across the north-south strip into the prevailing light north-easterly wind.

The aircraft climbed clear of trees to the north of the field and and carried out some low-level turns before completing a low-level, high-speed pass from north to south above the strip. As the aircraft approached the southern boundary of the field, the pilot pulled it into a very high nose attitude with the engine producing high power. The pilot held the nose- high attitude as the aircraft slowed, then carried out a rudder turn, putting the aircraft into a steep nose-down attitude.

When the aircraft stabilised, the pilot throttled back and initiated an approach to land on the strip in a northerly direction. As the aircraft touched down, the pilot reintroduced full power and pulled the nose up immediately. The aircraft became airborne and climbed at low airspeed to about 50 ft AGL, when the pilot initiated a left turn. The aircraft lost altitude in the turn and the left wingtip struck the ground, initiating a yaw to the left. The nose then impacted the ground and a fire began immediately. The aircraft came to rest, upright, after travelling 38 m across the ground towards the south-west.

The pilot received fatal injuries.

Wreckage information

The wreckage trail was aligned 220 degrees M. Ground marks indicated that the impact sequence began with the left wingtip. The next impact was made by the aircraft nose, 12 m from the wingtip impact point. The wreckage slewed 13.7 m before travelling 7.1 m above the ground and finally coming to rest after a further 5.3 m ground slide.

The timber propeller was splintered with both blades broken off at the hub and there were also propeller slash marks in the ground, together indicating that the engine was delivering power as the nose impacted. Three engine mounts were broken and the engine was displaced rearwards. Control linkages to the engine had sustained impact and fire damage. The oil tank had ruptured and the oil had been consumed by fire. The firewall-mounted glass fuel bowl was intact and safety wired but the fuel had been boiled away. Both the main (forward) and auxiliary (aft) fuel tanks remained in place but were severely fire-damaged. Fuel supply lines forward of the firewall were fractured due to engine movement during the impact sequence.

The left wing main and rear spars had failed each side of the wing strut attachment point, and the outboard section of the wing had been displaced rearwards. The left aileron, although damaged, remained hinged to the wing, and its push rod, bellcrank and cabling were in place and safety wired. The brass cable turnbarrels located in the cabin roof had been destroyed by fire and the cable runs had separated at that point. The left flap remained hinged to the wing.

The right wing had detached from the fuselage and was lying parallel to the fuselage, wingtip near the nose, indicating failure of the wing attachment points during the impact sequence. Both main and rear spar root ends had been destroyed by fire. The aileron and flap remained hinged to the wing and connected to their control runs, although the aileron cable runs were disconnected in the cabin due to destruction of the brass turnbarrels by fire. The flap torque shafts had disconnected in the wing root area with separation of the wing.

The empennage frame was intact but almost all the skin had been destroyed by fire. The elevators and the rudder remained attached and their control cable runs were intact.

The cabin area was deformed vertically and horizontally due to compression during the impact sequence and heat. All instruments, furnishings and windows had been destroyed by impact and fire. The flap lever was in the position for the selection of one stage of flap.

The wreckage examination did not reveal any pre-impact technical defect in the aircraft.

Pilot information

The pilot held a Private Pilot (Aeroplane) Licence with PERPETUAL status plus endorsements for single piston-engine aeroplanes not exceeding 5,700 kg MTOW, constant speed propeller, tailwheel undercarriage and retractable undercarriage. He held a valid Class 2 medical certificate. At the time that his medical certificate was last renewed on 5 October 1995, he had accumulated 1,500 hours flying experience. A more recent figure could not be obtained.

Discussions with other pilots who knew the accident pilot revealed that he was very proud of VH-MBA and maintained it in impeccable condition. He enjoyed attending and flying in displays. One pilot who had known him very well over many years reported that the accident pilot handled his aircraft well but enjoyed giving 'spirited' displays, 'often at low level', and flew very close to the boundaries of the aircraft performance envelope. He particularly enjoyed demonstrating the Auster's capability for flight at low airspeed.

Weather

The day began overcast and raining but the weather improved during the day. By the time of the accident, the conditions were dry with a light north-easterly wind (050/05 kt). Visibility was 25 km, the temperature was 18 degrees C and the lowest cloud was one okta cumulus at 3,000 ft.

ANALYSIS

After the touch-and-go landing, the aircraft had climbed to about 50 ft AGL when the pilot initiated the left turn. At this time, the aircraft was in the vicinity of a lone tree, about 10 m in height, that stood just east of the north-south strip. The airspeed was low and the pilot may have been experiencing difficulty with climb performance. He may have been concerned that the aircraft was close to the lone tree, or that, on its northerly heading, the aircraft would not be able to clear trees 25 m - 30 m in height, beyond the northern boundary of the field. Perhaps intentionally or instictively, the pilot initiated the left turn away from the prevailing wind.

As the aircraft turned away from the wind, it lost energy. As it was already flying at high engine power and low airspeed (high angle of attack) when it entered the turn, the effect of the turn was probably sufficient to cause the left wing to stall. A stall recovery from 50 ft AGL could not be effected before the aircraft impacted the ground.

SIGNIFICANT FACTORS

The pilot initiated a turn, at low altitude and low airspeed, which probably resulted in a stall from which a safe recovery could not be effected.