No: 8/86 **Ref: 1b**

Aircraft type and registration:	Sportavia SFS-31 'Milan' G-AYRL	
No & Type of engines:	One Rectimo 4-AR 1200 piston engine	
Year of Manufacture:	1972	
Date and time (UTC):	14 June 1986 at 1022 hrs	
Location:	Bincombe, Weymouth, Dorset	
Type of flight:	Private (pleasure)	
Persons on board:	Crew — 1	Passengers — None
Injuries:	Crew — 1 (Serious)	Passengers — N/A
Nature of damage:	Substantial	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	29 years	
Commander's Total Flying Experience:	150 hours (of which 96 were on type) and 145 hours on gliders	
Information Source:	AIB Field Investigation.	

At short notice the pilot arranged a flight to a point near his home on the northern outskirts of Weymouth. The aircraft was first seen as it crossed the Weymouth to Dorchester railway line near Broadway flying east at a good height.

The pilot flew eastwards across a valley before turning back towards the accident field. This was a large field with a pronounced slope up to the west towards the railway embankment. He flew over the field heading west and dropped a packet of keys near the centre. The aircraft was seen to continue flying up the slope and then turn to the right, clearing, the embankment by 50—100 feet with about 45° right bank applied, and nearly completing a 'U' turn before descending into the ground.

The aircraft struck the ground with the right wing tip whilst banked approximately 45° to the right and with the nose 30 to 40° below the horizon. The initial contact broke off the tip section of right wing and wrenched the wing rearward relative to the fuselage, causing partial disruption of the wing to fuselage attachments and angular movement between the two mainplanes. This allowed the fuselage to become disengaged from the wing attachments before the main (nose) impact occurred.

The main impact occurred some 36 feet forward of the initial tip contact, and caused the complete disruption of the fuselage forward of the cockpit aft bulkhead. The pilot was wearing a full harness which remained intact, buckled-up and securely attached to the fuselage structure, but as the mainplanes separated from the fuselage both seat and occupant were released through the bottom of the cockpit. The wreckage continued forward a further 36 feet before coming to rest, having turned through approximately 180 degrees from its original direction of travel.

Two propeller strikes were found in the ground immediately prior to the main impact point, each of which separately contained fragments of the tip region of each blade. The inboard sections of the propeller blades had broken from the hub at the root attachment bearings and had further broken into smaller pieces, which were distributed around the main impact crater. Pieces of the fibreglass sheathing from the central regions of both blades were thrown distances of up to 40 feet laterally from the impact point. The character, spacing, and depth of the blade strikes, and the damage characteristics on the leading edge and tip fragments from both blades, were all consistent with the propeller being driven at high power in fine pitch when the impact occurred.

The aircraft was complete and was structurally intact at the time of impact. The flying control surfaces were free moving, and all primary control circuit damage was associated with the break-up of and disruption of adjoining structure during the impact. The pitch trim tab and its operating circuit were undamaged, but the setting had been disturbed during the impact. The spoiler interconnect shaft had become disengaged during the impact and the spoiler positions at impact could not be determined. However, each spoiler operated smoothly from the torque shafts at the wing roots and the retraction springs closed each surface positively. The undercarriage wheel was retracted.

The canopy was shattered in the impact; there were no indications of a bird strike. The canopy frame had torn from the fuselage, but the distortion of the frame together with the damage to the canopy latch and its attachments indicated that it was closed and locked at impact.

The surface temperature in the area was 23°C and an intermittent sea breeze was blowing from the south east at about 10 knots. The aircraft's Flight Manual indicates that with a sea level temperature of 15°C and at the optimum climb speed of 62 miles per hour the aircraft's expected rate of climb after a missed approach would be 375 feet per minute.