No: 1/87 **Ref: 1c**

Aircraft type and registration:	Taylor JT 1 Monoplane G-AVPX	
No & Type of engines:	1 Volkswagen 1640 piston engine	
Year of Manufacture:	1968	
Date and time (UTC):	4 August 1986 at approximately 1835 hrs	
Location:	Whaplode St Catherine, nr Holbeach, Lincolnshire	
Type of flight:	Private (pleasure)	
Persons on board:	Crew — 1	Passengers — None
Injuries:	Crew — 1 (fatal)	Passengers — N/A
Nature of damage:	Aircraft damaged beyond economic repair	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	59 years	
Commander's Total Flying Experience:	236 hours (this was his first flight on type)	
Information Source:	AIB Field Investigation	

The aircraft was owned by a syndicate of which the pilot was a member. The purchase had been completed on Sunday 3 August 1986 and the aircraft was flown to Fenland Airfield.

During the late afternoon of Monday 4 August, the pilot arrived at the airfield to make his first flight in the newly acquired aircraft. It was also his first flight in this type and he had been briefed verbally on its handling characteristics and pertinent airspeeds. Shortly after 1700 hrs he was seen making adjustments to the carburettor. The fuel tank was then filled with fuel from a jerrican and an engine run, at less than full power, was carried out.

The aircraft took off from runway 18 at about 1800 hrs, turned left and carried out a visual circuit, at a height estimated as 300 feet, which terminated with a low pass down the runway. Further circuits were flown and one culminated in a landing from which the aircraft bounced. Power was applied after a second bounce, and the aircraft went around for another circuit. This time a successful landing resulted.

As he taxied the aircraft to the take-off point, the pilot was seen to give a 'thumbs up' signal. The aircraft took off and turned left. This was the last reported sighting until the wreckage was found at 0030 hrs on Tuesday 5 August.

G-AVPX was found in a field of ripe wheat approximately 1 mile north of the airfield, about 60 feet beyond a set of 132 KV power lines. The symmetrical pattern of damage indicated that the aircraft had been wings-level at impact, aligned within 15° of the runway heading, and the impressions in the ground showed a final descent at approximately 35° to the horizontal. A projection back along this flight path intersected the power lines, which subtended an angle of 25° to 52° as viewed from the centre of the aircraft wreckage, but there was no evidence of any

contact between the aircraft and the wires.

There was evidence at the site and on the pilot's clothing of there being a considerable amount of fuel in the aircraft at impact, and laboratory testing of the contents of the jerrican showed it to be clean motor fuel of octane rating between 2 and 3 Star.

Examination of the wreckage showed the control circuits for the elevator and rudder to be intact and without restriction of movement; the aileron circuit had suffered 3 mechanical failures, all consistent with the ground impact. One blade of the wooden propeller was intact and still attached to the engine whereas the other was broken into several pieces, indicating either slow rotation or, more probably, a stopped engine. At the time of the initial AIB examination the engine throttle control was found in the closed position, carburettor heat 'OFF', the fuel valve half-way between its open and closed positions and the magneto switches selected left magneto 'OFF' and right magneto 'ON'.

It was found that the shoulder straps of the pilot's restraint system were still attached to their anchorage but that, in the impact, the panel into which the lap strap attachments were anchored had torn out of the bottom of the fuselage. This had allowed the pilot's seat to move forward and fracture against the main wing-spar.

A strip examination of the converted Volkswagen engine was commissioned and witnessed by AIB. The examination included testing of the carburettor, disassembly of the fuel pump and testing of the components of the ignition system.

Although there was no evident cause of a complete engine failure, it was found that the left magneto would fire only unevenly, even after adjustment, and that the performance of the automotive spark-plugs was unsatisfactory when run in a spark pressure-test rig.

The examining engineer considered that, under these circumstances, the engine could be subject to rough running, especially at reduced rpm, and that switching off the right magneto in flight could then result in the engine stopping immediately. He also considered that the poor performances of the spark plugs and magneto were a long-term effect of the spark-plug gaps being excessive for this type of ignition system. All eight plugs were found with spark gaps between .025" and .030" and it was established that the most recent change of spark-plugs had been made in mid-1980; the aircraft was subsequently laid-up until 1985.