No: 7/85 **Ref: EW/G85/03/10**

Aircraft type and registration:	Auster 5J4 G-AIPR (light single engined fixed wing aircraft)
Year of Manufacture:	1947
Date and time (GMT):	9 March 1985 at 1450 hrs
Location:	2 miles NW of Wycombe Air Park
Type of flight:	Private (pleasure)
Persons on board:	Crew — 1 Passengers — 1
Injuries:	Crew — None Passengers — None
Nature of damage:	Starboard undercarriage collapsed. Damage to cowling, starboard lift strut, and wingtip
Commander's Licence:	Private Pilot's Licence
Commander's Age:	52 years
Commander's total flying experience:	1157 hours (of which 289 were on type)
Information Source:	Aircraft Accident Report Form submitted by pilot.

The aircraft was being used for circuit flying. Just before turning downwind on the third circuit the engine misfired twice and then continued to run smoothly. Immediately turning downwind there was a very loud bang followed by a succession of bangs and extremely severe vibration. The fuel and ignition were both selected 'off' and a distress call made.

A suitable field for a forced landing was selected and an approach started. Despite the fact that both the fuel and ignition were switched off the engine continued to fire erratically until about 100 feet above the intended landing point. The pilot reports that this, with the associated vibration, caused a considerable impairment to concentration.

As the aircraft crossed the hedge it was seen that the field had a marked falling slope which had not been apparent from the circuit height. The aircraft settled heavily in a three point attitude, tipped onto its nose, and then settled back to the three point attitude. It was then deliberately ground looped to the right in order to avoid running into the hedge, and as a result, the starboard undercarriage collapsed, and damage to the starboard lift strut and wingtip occured.

Examination of the engine revealed that the No 3 crankpin had fractured diagonally and the associated connecting rod had fractured in several places, the big end being broken into four pieces. The No 3 big end bearing shells had lost all their bearing metal and been flattened, and the crankshaft webs either wide of the crankpin had become sufficiently hot to carbonize the oil on their surfaces.

The initial failure appears to have been the loosening of the nut and bolt retaining the crankpin sealing plates. This had resulted in the sealing plates escaping, leading to total loss of oil to the No 3 crankpin with subsequent overheating and seizure of the No 3 big end. No evidence of the split pin which should have locked the sealing plate nut and bolt was found.

The engine had run about 1300 hours over 13 years without removal of the crankcase cover or disturbance of the crankshaft and connecting rod assembly.