No: 4/91 **Ref: EW/G91/03/02** **Category: 1c**

Aircraft Type and Registration:	Piper PA-30, G-AVCY	
No & Type of Engines:	2 Lycoming IO-320-B1A piston engines	
Year of Manufacture:	1966	
Date and Time (UTC):	9 March 1991 at 1025 hrs	
Location:	Cardiff Airport, Wales	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Both propellers bent and engines shock-loaded, abrasion damage to the lower fuselage and structural damage to the landing gear system.	
Commander's Licence:	Private Pilot's Licence with IMC and Night ratings	
Commander's Age:	47 years	
Commander's Total Flying Experience:	469 hours (of which 43 were on type)	
Information Source:	Aircraft Accident Report Form submitted by the pilot, an engineering report by a local licensed engineer and an examination of the aircraft by AAIB.	

After carrying out the preflight and engine power checks, the pilot was given ATC clearance to take-off. The engines were run up to 2000 rpm and, after a final satisfactory inspection of all instruments, the pilot released the brakes and eased the throttle levers forward to the fully open position. At about 50-60 mph the aircraft's nose suddenly pitched-down, instantly followed by total collapse of the landing gear. The pilot immediately commenced the emergency shut-down procedures and had closed both throttles and mixture levers, together with switching-off the fuel tank selectors and master switches, by the time the aircraft had slid to rest. The pilot and both passengers were uninjured and quickly vacated the cabin due to smoke billowing upwards from the floor area. The airport fire service attended immediately, but there was no fire.

An aircraft engineer, who arrived at the site within minutes of the accident occurring, found the landing gear in the fully retracted position and the landing gear selector in the 'gear-down' position. The aircraft was lifted with the aid of trestles and placed upon jacks. The landing gear was then lowered using the normal aircraft system. However it was found that the landing gear would only extended halfway. The emergency lowering system was then engaged and the gear extended to the fully

'down-and-locked' position. Examination of the damage to the lower fuselage and landing gear caused by the contact with the runway indicated that the landing gear had retracted normally and that nothing had been 'forced'.

Examination of the landing gear mechanical system revealed no faults, with the exception of the retraction/extension motor mounting which had been damaged. In the opinion of the engineer this had occurred whilst the landing gear was extended using the normal aircraft system. AAIB examination concurred with this view. Examination of the electrical system found that the landing gear warning horn was functioning intermittently. Further examination found a poor joint 'crimp' in the electrical wiring to the warning horn.

It was noted that the landing gear selector in the cockpit was of a type that could easily be accidentally knocked from one position into another.