Piper PA-28R-201, G-HERB , 31 August 1996

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Aircraft Type and Registration:	Piper PA-28R-201, G-HERB
No & Type of Engines:	1 Lycoming IO-360-C1C6 piston engine
Year of Manufacture:	1978
Date & Time (UTC):	31 August 1996 at 1440 hrs
Location:	Eshott, Northumbria
Type of Flight:	Private
Persons on Board:	Crew - 1 - Passengers - None
Injuries:	Crew - None - Passengers - N/A
Nature of Damage:	Propeller, nose landing gear and lower engine cowling damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	59 years
Commander's Flying Experience:	1,284 hours (of which 450 were on type)
	Last 90 days - 26 hours
	Last 28 days - 8 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and metallurgical examination by AAIB

After take off for a short local pleasure flight, the pilot selectedthe landing gear up and during the retraction cycle heard a metallicnoise from the front of the aircraft. The cockpit landing gearindicator lights showed that the main landing gear had retractedcorrectly, but that the nose landing gear had not. The pilot selectedthe landing gear down and obtained main landing gear 'down-and-locked'indications but no corresponding indication from the nose landinggear. Flying the aircraft at a safe altitude, the pilot recycledthe landing gear but was unable to obtain a nose landing geardown-and-locked indication. After making radio contact with theairfield the pilot flew the aircraft, with the landing gear selecteddown, past the clubhouse and was informed by those on the groundthat all three landing gears looked normal. An approach and engine-offlanding was made on the grass. The nose landing gear collapsedafter approximately 40 metres of the landing roll and the aircraftcontinued for about another 65 metres before coming to rest.

Examination of the nose landing gear showed that part of the castingof the gear leg had failed at the point where the drag link assemblyattached (Figure 1). It was noted upon initial examination bya locally based engineer and an insurance assessor that the surfaceof the lower half of the failure was dirty compared to the surfaceof the upper half. AAIB metallurgical examination concluded thatthe fracture of the drag brace attachment lug on the nose legcasting had resulted from the combined effect of a reduction inthe material strength caused by an adjacent weld repair, one ortwo heavy landings, and the presence of intergranular corrosionin the bore of the attachment lug. The relative effects of thesethree factors could not be estimated, nor could it be determinedwhen the lower half of the lug had cracked before the accidentflight, although final separation has occurred as a result ofthe development of the intergranular corrosion.

Examination of the aircraft log book and enquiries with one ofthe previous owners found no evidence of any heavy landings havingoccurred, or any repair work having been carried out on the noselanding gear since the aircraft was imported into the UK in 1986.It was noted that the aircraft had been parked in the open andunused for approximately three years during the early 1990's.