Piper PA-28RT-201T, G-BNZG, 20 June 1996

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Aircraft Type and Registration:	Piper PA-28RT-201T, G-BNZG
No & Type of Engines:	1 Continental TSIO-360-FB1 piston engine
Year of Manufacture:	1980
Date & Time (UTC):	20 June 1996 at 1044 hrs
Location:	Sleap, Shropshire
Type of Flight:	Private
Persons on Board:	Crew - 2 - Passengers - None
Injuries:	Crew - None - Passengers - N/A
Nature of Damage:	Damage to cowling, nose landing gears doors and propeller
Commander's Licence:	Commercial Pilot's Licence
Commander's Age:	28 years
Commander's Flying Experience:	1,950 hours (of which 120 were on type)
	Last 90 days - 150 hours
	Last 28 days - 66 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was engaged on a circuit training detail with thestudent handling. The instructor reported that, on the firstapproach to land, the student was controlling the airspeed welland that he was following a 3° glidepath. He further addedthat all three landing gear locked-down green lights were illuminated. Touchdown on the mainwheels on Runway 05 was gentle at approximately60 kt and the nose was lowered. However after rolling some 30metres on all 3 wheels, the crew realised that the nose landinggear was slowly starting to collapse and the propeller contactedthe ground.

The instructor took control and shut down the aircraft systemsas it rolled to a stop with the nose on the runway. There wasno fire and the aircraft was evacuated without difficulty. Uponexamination, it was found that the downlock hook (see diagram)had broken and that the roller upon which it engages was badlybent. It was evident that the distorted roller had contactedthe exterior surface of the hook and caused its detachment, therebeing no evidence of pre-existing cracks in the hook

fitting whichwas recovered from the runway. It appears possible that the rollermay have been bent for some time, but still able to enter thehook. On this occasion it is postulated that it might have rotatedand been presented to the hook in an adverse orientation, causingthe damage. The maintenance company could not explain how thepin distortion had occurred, but recalled another occurrence toa different aircraft where a stone, or a piece of concrete, hadlodged in the mechanism and led to a similar effect.

Since the detached part of the hook contained the striker platefor the microswitch controlling the green downlock light, it appearsthat the hook must have been in its correct orientation duringthe final approach, although possibly close to failure. A piloton the previous flight of this aircraft reported that he did noticethat the nose gear green light momentarily went out during taxying,but as it had re-appeared he did not think it worthy of comment.