Avid Flyer, G-BTKG

AAIB Bulletin No: 11/2003	Ref: EW/G2003/09/19	Category: 1.3
Aircraft Type and Registration:	Avid Flyer, G-BTKG	
No & Type of Engines:	1 Rotax 582 piston engine	
Year of Manufacture:	1992	
Date & Time (UTC):	16 September 2003 at 1750 hrs	
Location:	Drayton St Leonard, Oxfordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Nose landing gear and engine cowling damaged	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	311 hours (of which 179 were on type)	
	Last 90 days - 19 hours	
	Last 28 days - 7 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The pilot was returning from a cross country flight to the farm strip at Drayton St Leonard where the aircraft was normally kept. The weather conditions were good with a calm wind and clear visibility. The initial approach to the grass Runway 24 was made at an indicated airspeed of 80 mph and as he crossed the airfield boundary the pilot closed the throttle to carry out a glide landing. On the first touchdown the aircraft bounced but he did not consider it to be severe and continued with the landing. On the second touchdown the nose landing gear leg collapsed and the nosewheel detached. The aircraft came to rest in a short distance and the pilot completed the shutdown checks before he vacated the aircraft. He considered afterwards that he may have allowed the speed to decay too much before touchdown, resulting in a firm landing and a bounce.

An inspection of the broken nose landing gear leg was carried out after the accident by a Popular Flying Association (PFA) inspector. The leg assembly had been modified in accordance with PFA Mandatory Modification MOD/189/001, which required the original leg assembly to be reinforced with an internal sleeve. It was found on inspection that the leg tube and sleeve had suffered progressive stress cracking for some time prior to failure. The origin of the cracking was in the region of a hole located in the leading face of the leg, which had been drilled for the purpose of fitting it to another aircraft. When the leg was subsequently fitted to this aircraft a new hole had been drilled at 90º to the original hole, now redundant. The position of this redundant hole resulted in a high stress concentration, which was considered to be the reason for the fatigue failure.

The pilot had noticed a wheel shimmy during his previous few flights, which he had put down to an incorrectly inflated front tyre.